TECHNOLOGY DEPT:

February 7, 1940

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DETROIT

NATIONAL PETROLEUM NEWS

Dr. George Calingaert

Director of Chemical Research for Ethyl Gasoline Corp., who announced the commercial practicability of a chemical redistribution reaction recently, has moved with his department into new and enlarged quarters.

REFINING TECHNOLOGY EDITION

Lasting STRENGTH

MORRISON ENGINEERS have designed these valves to meet the constantly increasing demand of the industry. Produced by skilled workmen—with fine watch precision and the highest grade brass obtainable, these values are characteristic of all MORRISON OIL EQUIPMENT. Their sturdy construction assures lasting usefulness. Write for free catalog covering complete line of oil equipment.

MORRISON BROS. COMPANY

OIL EQUIPMENT HEADQUARTERS

DUBUQUE, IOWA

Bennett new Pyramid Construction

BENNETT has redesigned and combined meter, air eliminator and pumping unit into one new accessible assembly—all mounted on the base and entirely independent of the frame work. The complete assembly is floated on rubber, which insures positive quietness. All units and parts are accessible and removable through the open doors. Only an 8-inch adjustable wrench and screw driver are necessary for all ordinary service requirements.

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Pump Rotor can be removed in 52 seconds.

Bennett-the Pump ahead!

SEND FOR THE NEW ILLUSTRATED FOLDER

At the Tax Lookout Post . . .

Baird H. Markham

On guard against oppressive taxation of the petroleum industry and its customers, the public, stands the American Petroleum Industries Committee, with Baird H. Markham now entering his eighth year as director.

The "General," as he is known throughout the industry, comes rightly by that title—he was adjutant general of the Oklahoma National Guard, 1923-25, and for eight years major general of the 45th National Guard Division. Prior to his connection with the Marland Oil Co. in 1927, and later with its successor, the Continental Oil Co., he headed a motor company at Oklahoma City. He is a native of Decatur, Texas, born March 28, 1887.

A month after the A.P.I.C. was set up by the American Petroleum Institute at its Houston convention in November, 1932, General Markham was appointed director, taking office in January, 1933.

Purpose of the A.P.I.C. was—and still is—to oppose increases in the gasoline tax, diversion of tax revenues to non-highway uses, and unreasonable restriction on operation of motor vehicles. The organization lent effective aid in strengthening state laws against tax evasion so that this once-widespread evil has now virtually vanished.

To chronicle achievements of the A.P.I.C. would make a lengthy list. One fact, however, will epitomize its successful record: In the seven years prior to 1933, there were 75 state gasoline tax increases—68 of them permanent. In the seven years since, including 1939, only 12 states have increased the gasoline tax, with only five permanent.

NATIONAL PETROLEUM NEWS

VOLUME 32 WEDNESDAY, FEBRUARY 7, 1940 NUMBER 6

Oil Industry Meets Demand For Fuel Oil

N. P. N. News Bureau

NEW YORK, Feb. 6.—The eastern fuel oil industry has not yet recovered from the body-blow delivered by Ol' Man Winter, but the industry reports that all consumers of industrial and domestic fuels have been taken care of during one of the coldest Januarys on record.

Taking care of the consumer, however, was not accomplished without a considerable number of headaches and expense on the part of the industry.

As stated by one executive, speaking about trading and exchanges carried on between supplying companies as they endeavored to spread the fuel around, "right now it takes a Philadelphia lawyer to figure out who owes whom and how much."

A fine spirit of co-operation was manifest among companies here ordinarily in competition for the same business, he said, although some suppliers, because of a shortage of fuel prorated their shipments among marketers and peddlers.

Trading and exchanging of fuel oil among suppliers, both independent and major companies, reached unprecedented levels here, according to reports.

One supplier who had two cargoes coming up from the Gulf found that he still had no oil, because he owed both cargoes on trades previously made.

A large company reports that for the first time since they have been operating on the East Coast they had been forced to ask for help to supply contracts.

Shipments Prorated

Some marketers, who had contracts which stipulated that they must take out 25 per cent of their requirements by Dec. 31 and who had not lived up to the contract were cut off by some suppliers, it was said. Other company officials said they did not know of any marketers having suffered cancellation of contracts. They admitted, however, that many companies had placed limitations on the amount which could be taken out by resellers. In some cases marketers' supply for the cold

(*Continued on page* 20)

Cole Praises Kansas Law

By Teletype

WASHINGTON, Feb. 6.—Chairman Cole (Md.) told Gov. Bailey of Ark. that "if all oil producing states had conservation laws like Arkansas, and administered them in the same way, we would not be here today."

Mr. Cole made this comment during Gov. Bailey's appearance before the oil subcommittee in opposition to the Federal oil control bill. The chairman pointed out that the Arkansas statute is the only state conservation law which says nothing about market demand.

Gov. Bailey, like other governors who appeared at the hearings, warned against concentration of power in Washington.

Nine Governors Hit Federal Oil Control

By Teletype

WASHINGTON, Feb. 6.—Gov. Payne Ratner, Kans., one of nine governors here to oppose the Cole Bill for federal oil control (HR-7372), opened hearings today before the Cole oil subcommittee, attacking the proposal as one which would vest a federal commissioner with a delegation of power "so broad that it contains few, if any, practical limitations."

"Instead of laying down a legislative policy within which the commissioner is directed to act," Gov. Ratner said, "the bill authorizes and empowers him to do practically anything which he might conceive to be desirable. It is extremely doubtful, to use Justice Cardoza's metaphor, whether the Cole Bill creates a canal with sufficient banks to prevent the current from overflowing the entire country."

The Kansas governor also attacked the Cole Bill as a blow "at the structure of state sovereignty."

He told of the "personal" touch which members of the industry have with their state regulatory bodies and declared that such a relationship "is not possible with control in Washington."

Gov. Ratner said there is a place for the Federal Government in the oil picture. It is occupying this place now, he added, through its enforcement of the Connally Act, issuance of Bureau of Mines forecasts, etc.

Quizzed on Shutdowns

Chairman Cole questioned Gov. Ratner concerning the shutdown of production last August, asking him if he did not think this was evidence of "wasteful" production such as the Cole Bill seeks to eliminate.

The Kansas governor said that in his opinion the shutdown demonstrated the efficiency of state conservation laws as opposed to a federal law. Such a curtailment of production could only have been brought about so rapidly and effectively through state control, he said.

Chairman Cole also asked if the governor had any suggestions for methods to prohibit states which have not enacted conservation laws from overproducing oil and thus flooding the market of states which have such laws.

Mr. Ratner said that it was the expectation of states which do have such laws that most of the oil-producing states will have them soon and will join the Interstate Oil Compact. He said four new states were ex-

(*Continued on page* 17)

Madison Case Argued Before Supreme Court

By Teletype

WASHINGTON, Feb. 6.—Madison oil case entered the last lap today with argument before the U. S. Supreme Court of the government's appeal from a lower appellate court's decision reversing the convictions and granting new trials to remaining 17 defendants convicted by jury at Madison, Wis., two years ago.

Col. Wm. J. Donovan argued for two hours this afternoon, supporting the lower court's ruling throwing out the Madison convictions on grounds that the trial court should have admitted evidence tending to show "reasonableness" of defendants' activities.

Col. Donovan's argument followed an argument of about an hour and a half by John Henry Lewin, who was among government counsel at the Madison trial. Thurman Arnold, chief of the justice department's anti-trust division, spoke about a half hour in rebuttal to Col. Donovan's argument.

The court displayed interest in the arguments, repeatedly questioning Col. Donovan as to various phases of the case, particularly his assertion that the prices paid by the major companies for "distress" gasoline were not reported by the market journals as "spot" transactions, hence they had no direct effect on the spot market.

Justice Frankfurter was one of the most frequent questioners, although queries were also made by Justices Reed, Stone, Roberts and others.

In his argument, Col. Donovan called attention of the Court to the fact that although the justice department had contended that the trade journals were a vital part of the alleged conspiracy, these publications were dismissed from the case, on the government's own motion, at the close of government's presentation at the trial. The chief defense counsel also pointed out that the purchases of distressed gasoline followed, rather than led, the spot tank car market.

Only seven members of the supreme court sat in on the Madison argument. Newly-appointed Justice Frank Murphy withdrew because, as attorney general, he had had a hand in the Madison cases. Justice Black is ill in a Washington hospital.

Varied Octane Tests Confuse Middle West

N. P. N. News Bureau

TULSA, Feb. 5.—Recent announcements by several refiners that they now have available for their motoring public "new" and "improved" gasolines, has whipped up a large amount of confusion in mid-western markets.

Most of the confusion centers around the matter of octane number of the "new" gasolines, despite the fact that the announcements to the public of the new motor fuels have not disclosed their anti-knock rating.

These refiners have not had to announce the octane number, because it has "leaked out" that the gasolines have an octane rating of 78 to 82 and this "huge jump" has been passed around by word of mouth to virtually every distributor and dealer.

Little information as to the method by which the octane number was obtained has been passed along, however; with the result there is a lot more confusion, according to many Mid-Continent refiners, than is justified at this time.

It is true, say these refiners, that the "new" gasolines may have 78 to 82 octane number, when tested by the 1939 modified research method. But they are likely to show only 1 to 2 octane numbers increase when tested by the L-3 Method, which has been the prevailing test method in this area now for many months, they state.

Advise Their Customers

A number of Mid-Continent refiners have sent letters to their customers advising them not to get excited about the big number octane gasolines. They explain there is confusion now over the test method to be used, and that it will require some 60 to 90 days to get the ratings on a comparatively uniform base.

Members of the Western Petroleum Refiners Assn., meanwhile, have launched an intensive study of the whole situation through a special subcommittee of the manufacturing committee. All available technical information on the new fuels will be gathered and correlated by this committee and a report prepared to present at the association's annual meeting late in March at Wichita, Kans.

Using Present Brackets

Meanwhile, the association's octane committee recommends that the industry in the Middle West continue to "go along" with the present octane brackets carried in the oil publications until the question of what test method is to be used can be answered. The committee has pointed out that three test methods are now available for use and that individual refiners naturally use the method that gives the largest number of octanes to their gasoline.

Any attempt to change octane brackets right now would cause even greater confusion, the committee states. Contracts would have to be rewritten, and then perhaps rewritten again within 60 days. The trade publications would have such a string of octane brackets, if each of the test methods had to be recognized, that the prices reported would have little meaning.

There is also reported confusion in some areas over the octane rating of third grade gasolines, with some companies reporting "increases in the octane number" of their product. Two or three companies are said to be now marketing a 70 to 72 octane third grade, with their house brand running around 80 octane and their Ethyl gasoline 88 octane.

But here again appears the question of "How is the octane number determined?" And in many quarters the answer is: "By Modified Research Method."

That means, therefore, that the leaded 67 octane number, third grade, by the L-3 method, which has been generally marketed in the Middle West and Southwest, is likely now to be a 70 octane gasoline with no material change in the product, but merely a different method of determining the octane rating.

This situation may bring a difficult problem to many refiners who have been heavy manufacturers of third grade gasoline. These refiners' gasolines are not the kind that are "favored" by the Modified Research Method, which means the gasolines cannot be "upped" in octane number merely by a change in test method. Any increase in octanes in these gasolines has to come the hard way—by adding more tetraethyl lead—and that runs up the manufacturing costs.

One refiner in Oklahoma reported some of his jobbers were asking for an "80 octane" gasoline and that he was shipping the material, but obtaining 0.125 to 0.25 cent a gallon more for it than for his regular or house brand product. A Texas refiner reported he had been offered up to 0.5 cent a gallon premium for an 80 octane motor fuel.

$4,000,000 Refinery Planned By Continental in Louisiana

N. P. N. News Bureau

TULSA, Feb. 3. — Continental Oil Co. has completed plans to construct a large refinery at Lake Charles, La. on a site adjacent to its crude oil tank farm. The refinery is expected to cost approximately $4,000,000. Construction will be started in April and completed before the end of the year.

While no contracts have been let as yet for construction and the company's officials report they are not prepared at the present time to announce the type of plant and equipment that will be used, it is reported the plant will be equipped to manufacture high octane fuels.

Company's plans were made public following the signing of an order by Gov. Earl K. Long granting state tax exemption for 10 years under the state board of commerce and industry program to attract industry to Louisiana.

The refinery site has a frontage of 2000 feet along the deep water channel, with considerable frontage also on both the Southern Pacific and Kansas City Southern railroads.

21,330 Bbl. Daily Available

The Continental company has been active in oil production in southwestern Louisiana for several years, with production in the Ville Platte, Tepetate, Abbeville, Lockport and Lake Arthur fields. Allowable production for the company in southwestern Louisiana is listed at approximately 21,330 barrels daily.

A considerable portion of the company's crude has been shipped by tanker to its Baltimore, Md. refinery but with the completion of the Lake Charles plant it is believed that the company will become a crude oil buyer in some of the fields near that refinery.

Phillips Introduces New Motor Fuels

TULSA, Feb. 3.—Phillips Petroleum Co. late in January, in newspaper advertising throughout its territory, announced new motor fuels.

"New, at every Phillips 66 pump in town, higher anti-knock, without higher price", it said of its regular grade gasoline. "Here is the sensational new gasoline that is causing all the talk! . . . with an octane rating so high that it practically gives the same knockless performance for which you previously had to pay 2 cents extra per gallon."

"New Phillips 77 is similarly improved. Now, double-premium quality at single-premium price," the company stated of its premium motor fuel.

Illinois-Indiana Group Opposes Cole Oil Bill

ROBINSON, Ill.—Board of directors of Illinois-Indiana Petroleum Ass'n. in a resolution adopted at a meeting here recently declared they were "unalterably opposed" to the Cole Oil Bill (H.R. 7372).

The resolution, which was forwarded to all Illinois and Indiana members of Congress petitioning them to defeat the bill, declared the concentration of power to control production and transportation in an individual to be appointed by the President "but to be clothed with dictatorial power as set forth in H.R. 7372 is not now justified by the conditions and practices generally prevailing in the petroleum-producing states."

The producers added their belief that the "subordination of the sovereign powers of the states over their petroleum industries to Federal authority such as proposed by the terms of said H.R. 7372 would be subversive of our constitutional form of government."

'World's Largest' Gas Purifier Planned for Texas Panhandle

BORGER, Tex., Feb. 3.—The J. H. Huber Corp., carbon black manufacturers operating in the Panhandle gas field, have let a contract for construction of a natural gas purification plant which will be the largest of its kind in the world. The contract was let to the Koppers Co., Pittsburgh, which will build a seaboard process type plant for the removal of hydrogen sulfide from the natural gas. The plant will have a capacity of approximately 70,000,000 cubic feet of gas daily.

Abolishing Bureau of Mines May be Next Move in 'Purge'

N. P. N. News Bureau

WASHINGTON, Feb. 5.—Interior Secretary Ickes may be relieved of the necessity for appointing a new Bureau of Mines Director, if a plan now under consideration in his department comes to fruition.

The reason:

There will no longer be a Bureau of Mines, if it goes through.

Since Dr. John W. Finch left the Bureau as of Jan. 31 (on invitation of Secretary Ickes), the acting director of the Bureau has been Dr. Arno C. Fieldner. Dr. Joseph Hedges, assistant director under Dr. Finch, has been transferred to the Bureau's field service (at College Park, Md., as a "mining engineer") at about a half his former salary.

Dr. J. W. Furness has been appointed acting assistant director, and J. A. Davis, chief engineer of the Bureau, has been made acting chief of the administrative branch, also headed by Dr. Hedges before the latest shakeup.

All these are temporary appointments. But the reason why they may be extremely temporary is this:

An Interior Department thinker has developed a plan whereby Ickes won't have to appoint a Bureau of Mines director, and at the same time, will be enabled to get all functions now under the Bureau into divisions of the department which he ostentatiously controls. The plan is to put:

(1) Mines Bureau's safety functions under the Public Health Service.

(2) Mines Bureau's oil activities (petroleum economics division and technical branches) under the Petroleum Conservation Division.

(3) Mines Bureau's coal activities under Bituminous Coal division (formerly National Bituminous Coal Commission).

(4) Mines Bureau's mining and mineral branches under the Geological Survey.

Under No. 2 of the above, it is assumed that E. B. Swanson, now associate director of the Petroleum Conservation Division, may be placed in charge of the petroleum activities now in the Bureau of Mines.

North Dakota Simplifies Sampling Procedure

BISMARCK, N. Dak.—The Oil Inspection Division of the North Dakota Laboratories Department has issued new regulations for sampling of petroleum products received in the state, which will eliminate duplication and the number of samples tested.

The department has advised the industry that if invoices or shipping notices carry statement certifying that a representative sample of the material has been sent by the supplier to the department for inspection, it will not be necessary for oil companies to send additional samples.

It will still be necessary, however, for companies to take a sample of each shipment received and hold it for at least ten days, so that it will be available if checking is found necessary.

KansasMeeting Program Listed

By Teletype

WICHITA, Kan., Feb. 5.—Program for 26th annual convention on Kansas Oil Men's Ass'n. at Broadview Hotel here Feb. 12 and 13 will feature talks on merchandising, new trends in motor fuels, farm credits and motor oil improvements.

G. Denny Moore, managing director of Gasoline Pump Manufacturers Ass'n., New York, will talk on "Profitable Marketing through Balanced Selling."

"Trend of Present Day Motor Fuels" will be discussed by H. L. Nixon, consulting engineer, Ethyl Gasoline Corp., Kansas City.

Harry M. Rugg, automotive engineer, Pennsylvania Grade Crude Oil Ass'n., will discuss "Improvement in Manufacture of Lubricating Oils in Past Few Years and Trend of the Future."

Lewis M. Knight, Manhattan, Kan., of U. S. Department of Agriculture, will talk on "Farm Credits."

At the luncheon Feb. 12, J. Ward Gates, past president of Wichita Chamber of Commerce, will talk on "Value of an Oil Association to Jobbers."

Principal speaker at the annual banquet will be Dr. K. W. McFarlane, Dean of men, Emporia State Teachers College, whose subject will be "American Heritage."

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Cold Helps Marketers Sell Winter Change-Overs

Marketers Drill Station Operators On How to Use Cold Wave to Sell

N. P. N. News Bureau

WASHINGTON, Feb. 5.—Oil marketers in the Southeastern States are planning to make hay after the snowfall.

A dozen or more of them have told NATIONAL PETROLEUM NEWS that they expect to sell many crankcase drains, as well as Winter Change-Overs from light to heavy oils and grease for transmissions and differentials as a result of the storm and cold weather they have just come through.

All point out that the snowstorm and abnormally cold weather will give them talking points not only for oil change but for lubrication jobs. Here are the reasons they give:

Talking Points Cited

1. The cold weather causes moisture to condense in crankcases, and when it thaws, it adds water to the oil.

2. Sand and gravel on streets and highways gets into wheel bearings, spring shackles, and other exposed parts, and the only way to get it out is by forcing new grease into the bearings and driving the old, gritty grease out.

3. Essential "choking" of motors in cold weather causes a drainage of gasoline into the crankcase, thinning the oil therein.

Cold Hangs on in Spots

The cold wave lingers on in some areas of the South. Richmond had several sub-zero days last week, but the mercury has risen since. Temperatures are still well below normal in many sections. Fuel oil deliveries are still claiming a great deal of marketers' attention, although they are out of the "emergency" class now.

As more and more cars are put back in service, marketers expect that there will be a pick-up in Winter Change-Over business. Meanwhile, they are educating their station operators and retail outlets on how to capitalize on the cold spell in their selling, pointing out the need for motorists to change oils and greases to protect their cars from serious after-effects of sub-zero temperatures.

With dry streets again, there will also be a talking point for car-wash jobs, to rid the paint and chassis of salt that was placed on slippery streets (salt corrodes many metals).

Use Mailing Cards and Radio

An example is the Delta Oil Co., Petersburg, Va., which has already begun sending out cards urging customers to come in and have their lubrication looked over because of the sand on the streets, the extreme cold weather, affecting crankcase oil, and generally.

Another is the Pete Thornell Oil Co. of Florence, S. C., whose proprietor, Pete Thornell, (NPN, Jan. 10) broadcasts several times a week over a local radio station. He is now urging motorists, by radio, to come in and get that diluted oil out of their crankcases to save their motors—and to get grease jobs to save their bearings.

Farther south, Charleston Oil Co. is finding it a push-over to sell Winter Change-Overs now to certain of their customers who last fall ignored admonitions of station operators that they winter-condition their cars. The customers' conversion dates from that near-zero sweep through South Carolina two weeks ago.

Uses Radio to Sell Winter Change-Over

"Pete" Thornell, enterprising independent marketer of Florence, S. C., is using the local radio station several times a week nowadays to urge motorists: "Come in and let us drain and refill that crankcase—the cold weather has diluted your motor oil"

IT CAN HAPPEN AGAIN—Who knows but what Ole Man Winter may pay another surprise visit—will he again catch motorists unprepared, with heavy motor oils and gear greases in their cars? Picture shows a Birmingham, Ala., station after storm two weeks ago

Oil Marketers 'Learn Their Lesson' From Sudden Cold Weather in South

BIRMINGHAM, Ala., Feb. 5.—Service station operators in the Deep South "learned their lesson" during the coldest January on record and next Fall will do "a lot better job" of selling Winter Change-Overs, according to George L. Gilliland, president of the Alabama Independent Service Station Operators.

Gasoline and oil sales at most Birmingham stations was off about 40% in January. Sub-zero temperatures, following the unusual snowfall of two weeks ago, kept the snow on the ground for 12 days. Battery sales tripled during the cold spell while gallonage of anti-freeze sold reached record highs. Few stations had chains to sell, so this business went elsewhere.

Cars were slow in getting back into use after the thaw. Even then, there was no rush for lighter oils and greases, some station operators said, attributing this to motorists' belief that the "cold spell is over and there won't be another". On the theory that "it happened once and can happen again", some operators are urging their customers to be prepared next time.

One and all the station operators, however, seemed determined to put on a real selling drive next Fall for Winter Change-Over sales.

Battery Sales Set Record During January Cold Wave

Fall Change-Over Drive Missed Lots of Bets

January battery sales, at an all-time peak, indicate the extent of selling opportunities lost by oil marketers last Fall during the Winter Change-Over campaign. Nine out of ten batteries that failed during the recent cold spell would have shown up as in bad condition last Fall. Had service station operators checked up and made their sales talks convincing, they would have saved thousands of motorists from being stalled when real cold weather set in, as the accompanying news article indicates.

AKRON, Feb. 1.—The recent extremely cold weather over much of the country left strewn in its wake a deluge of stranded motorists, generally from battery failure, and January battery sales reached an all-time high, according to battery manufacturers here.

One manufacturer said sales in January were over 100 per cent ahead of sales in the same month of 1939. Another reported his company was far behind on orders for batteries to replace those sold during January.

These manufacturers pointed out that most of the batteries which failed when the extreme cold wave struck, should have

been replaced early in the fall, in connection with the Change-Over to winter lubricants.

One said that he believed about 90 per cent of the batteries sold in January were in such condition that checking during the fall Change-Over period would have indicated their inability to withstand the winter, and the way would have been opened for the station operator to make the replacement sale.

Customers Wait to Buy

Servicing batteries during the cold wave taxed the capacity of many stations, this manufacturer added, pointing out a service station alongside his company's plant as an example. This station, he said, was so busy when extreme temperatures came that customers had to wait at least eight hours for battery replacement or service.

Proper merchandising of batteries during the fall, said the sales manager of another battery company would have resulted in a profitable "hump" in battery sales during all the fall months, rather than just a January peak, which was difficult, if not almost impossible, for some operators to handle.

Tire Shipments Gain

N. P. N. News Bureau

NEW YORK, Feb. 2.—Tire shipments in 1939 reached a ten-year peak in 1939, when automotive casing shipments amounted to 56,975,044 units. This was 32.1 per cent above shipments during 1938, and was the best year since 1929, when over 69,000,000 units were shipped, according to a report of the Rubber Manufacturers Ass'n.

Replacement units shipped in 1939 are estimated at 37,536,608 units, an increase of 22.8 per cent above 1938, while original equipment shipments, estimated at 18,164,441 units, or 57.7 per cent ahead of 1938.

Shipments of inner tubes in 1939 totaled 51,758,353 units, the association reported, compared with inner tube shipments of 40,292,614 units in 1938.

Ice Jam Breaks Up

MEMPHIS, Tenn., Feb. 6.—Ice has begun to break up sufficiently to permit limited navigation on the Mississippi River between Memphis and New Orleans but there still is no navigation between St. Louis and Memphis, nor up the Ohio River.

Two towboats of the Standard of Louisiana, tied up here as a result of the heavy freeze, were started downstream yesterday. Considerable floating ice was expected to be encountered and the boats probably would be forced to tie up at nights.

The river was reported clear of ice at Baton Rouge and there has been limited navigation along the lower stretch of the river.

Egloff Tells Tennesseans About High-Octane Fuels

Speakers at the conclusion of the three-day convention of the Tennessee Oil Men's Association at the Peabody Hotel, Memphis, were (1) Sam Campbell, Chattanooga, past president; (2) Alfred T. Levine, Nashville, general counsel; (3) Dr. Gustav Egloff of the Universal Oil Products Co., Chicago, and (4) J. A. Costello, manager Southern Division Ethyl Gasoline Corp.—Photo by courtesy of Memphis Commercial-Appeal

MEMPHIS, Feb. 1.—Dr. Gustav Egloff, Chicago, of Universal Oil Products Co., at annual meeting of Tennessee Oil Men's Ass'n. here Jan. 30, predicted that future demand placed on the industry would be for 100 octane motor fuel. Speaking extemporaneously, Dr. Egloff explained antiknock qualities of motor fuels, and at the conclusion of his talk conducted an open forum for marketers.

Dr. Egloff traced the history of petroleum refining from the early days when the only way to get rid of gasoline was "to sneak it into kerosine", down to present-day fuels, some of which run to 100 octane. These ultra-high octane fuels at present are used now largely for aviation purposes, but there will be ample supply available when automobiles are developed to make use of it.

Even with 100-octane gasolines, however, the industry won't stop its research in developing fuels of still higher quality, he added.

More than 200 oil men braved the snows to attend the annual convention, which was held at the Peabody hotel, Jan. 28, 29 and 30. E. V. Weber, president of Eureka Oil Co., Cincinnati, and vice-president of marketing division of American Petroleum Institute talked Jan. 28. (See NPN, Jan. 31, page 13).

The pioneering of the Ethyl Gasoline Corp., in the motor fuel field was outlined by J. A. Costello, southern division manager for Ethyl.

Oil Rushed to Rio Grande As Smudge to Save Crops

By Teletype

WESLACO, Tex., Feb. 3.—Petroleum—crude or refined—just so it would burn, was rushed into this winter farming section of the Rio Grande Valley during the recent cold spell to save the crops from the unprecedented freeze.

Oil, old automobile tires, wood, rags — anything that would burn—was used for smudges in the orchards and truck farms but the temperatures dropped so much below freezing and remained there so long that considerable damage was done, particularly to the citrus crop, in spite of the smudges.

Cold Booms Battery Sales

Replacement sales of batteries reached an all-time high during the recent January cold spell—yet there are still thousands of sales opportunities available to marketers. Tomorrow or next day Ole Man Winter may "get" that worn-out battery—if the station operator doesn't yank it first. Picture shows a battery replacement sale

The Editor's Page—

Readers Comments and Opinions will be much Appreciated by—WARREN C. PLATT, Editor and Publisher, Penton Building, Cleveland, O.

Fuel Oil Prices Are Determined

Under Hot Summer Sun, Instead of in Winter's Chill

The unusually severe sub-zero weather of this past January has brought out most strikingly that heating and fuel oils are PRINCIPAL Products of the oil industry in VOLUME even though the industry largely prices them as "by-products."

Refiners and marketers have met the entire demand for these oils, unexpected as it was, at considerable individual cost in making deliveries and particularly with a resulting 10 million bbls. increase in gasoline stocks.

In addition to this physical difficulty the gasoline stocks have, psychologically at least, even though they may still be safely in the tanks of the refinery departments rather than on the hands of the sales departments, had a depressing effect on gasoline prices of ¼c to ½c per gal.

Against this increased expense of storing that quantity of gasoline and of having to sell gasoline currently at this lower price, the industry has received in return for the heating and fuel oils no more than "tops" on contracts or a possible ⅛c to ¼c more in Oklahoma and a shade more in posted prices for heating oil at New York harbor. On heavy fuel oil, the "tops," said to be around $1.20 per bbl., mean a substantial loss for anyone who has to charter tankers in the open market or who would follow the sound accounting system of charging himself with open charter rates. The war and heavy domestic demand has sent charter rates up so high that, if you can get the boats, you will deliver the heavy fuel oil on your contracts in New York harbor at 40c to 60c or more below what the oil will cost you plus the charter rate, from the Gulf.

So for treating heating oils as a "by-product" and not pricing it for what it is worth, independent of the other products, the oil industry this wintry February day, with a foot or more of snow still covering a good bit of these United States, finds that,—

It has done a fine job of running its trucks 24 hours a day,—

It has chartered additional trucks and even taxicabs to make oil deliveries in 5 gal. cans,—

Oil company help is working over time and there is a wage and hour law that penalizes such service to the public,—

Oil company barges are frozen in rivers, costing money and not earning money,—

Companies have to buy oil in the market to protect contracts because they can't get their own products through the ice and snow,—

Gasoline is accumulating at an actual expense beyond what probably is needed,—

That "excess" of gasoline, not yet actually on the market, has weakened the price-thinking of all sellers so they are selling their CURRENT deliveries of ALL gasolines at a lower price than when the heating oil demand loomed up so strongly,—

Some alleged "consumers" and some chisellers down east are bringing complaints to New York's Mayor and others against the "high prices" and alleged "scarcity" of heating oils,—

And on top of all this the industry is not getting the cost of a barrel of crude oil out of a barrel of heavy fuel, figuring crude at the well, nor out of a barrel of heating oils figuring the crude delivered by pipeline at a refinery in the field.

Here is a market that is consuming almost as much petroleum product as is the automobile and truck. The market is expanding each year. Oil burners are being better made. They are being placed in more homes, and not the homes of the wealthy as the coal people would have you believe. Close to 2 million homes are being heated by "heating oil" to say nothing of all the homes in New England and other congested centers that are getting considerable heat and their cooking from "range oil." Heating oil is so well established in a growing market that the coal interests and a tax-hungry administration at Washington make annual efforts to soak it with a heavy tax.

Where Are Last Summer's 'Excess' Stocks?

And yet the oil industry still prices these heating products as by-products rather than as important main products. Contracts for each winter are made in the heat of summer, generally, when even the refiners—majors and minors—think of heating and fuel oil as "drugs" on the market. "Top" prices are made to protect the buyers, even "tops" were made this last summer almost as the guns of war began to sound, just as if the world was going to live at peace for ever more and no one would ever care a hang for another gallon of heating oil.

The oil industry could well take two looks at its statistics.

One look would be to better estimate the need of fuel oils against the chances of severe winters, and to restudy its ideas of what are "working stocks" of all petroleum products. We hear much this winter about the gasoline stocks being "too high" but diligent search has failed to find a single company that considers its own stocks too high. So where are the "excess" stocks and what kind of a measuring stick is the industry using?

The second look at the industry's statistics should be to ascertain what stocks will accumulate against the following season's demand? How much gasoline should a company have in winter and how much fuel oil in summer?

In fact the industry might then take a third look at all this and say to itself, "Now all these stocks are normal and there is no reason to get panic-stricken. We will keep these stocks IN the refining departments until we are ready to sell them and as long as they are in the refining department, and the management has a good strong backbone, THEY WILL NOT BE ON THE MARKET, hence there is no reason to let these stocks affect price adversely."

And then, if they must contract their heating products in the summer, the refiners and marketers should get a large picture of a winter scene, lots of snow and ice and zero temperature, hang it on the office wall and take a long look at it and then decide on their winter price. Maybe a good air-conditioned office will do just as well to get heating oil prices up in summer for next winter's contracts?

There is far more plain everyday psychology to the oil industry prices than the average man realizes. The trouble is the prices have been made under adverse psychological circumstances which the sellers did not realize.

Around THE MID-CONTINENT

. . . By ALLEN S. JAMES

A member of the McAllen, Tex. chamber of commerce has written friends that winter visitors in the lower Rio Grande valley have been interfering with the drilling operations at the Humble Oil & Refining Co.'s well about five miles from McAllen. Hundreds of tourists from the North and Middle West, who have never seen a well being drilled, have been visiting the site and, according to the C. of C. member, asking so many questions that it takes all of a roughneck's time to answer them.

And if Humble's home office has heard about that situation, it is our guess that by now "Billy" Finnegan or "Pop" Mabry have taken steps to see that the visitors are welcomed to the site and that there is someone there who can answer most of the questions that could be asked.

It's too sweet a setup for public relations for any company to miss.

* * *

'Most Unusual' Luncheon

A luncheon, which has been termed in Wall Street financial circles as "most unusual," was given at the Bankers Club on Jan. 16 as an aftermath of the reorganization of the Barnsdall Refining Corp. and its change of name to the Bareco Oil Corp.

Host was an industrial consultant, Leon H. Rich, who had been prevented by bad flying weather from reaching the special meeting of stockholders in Tulsa Jan. 4 when the reorganization plan, laid before the stockholders late last November, was approved.

Mr. Rich had proxies representing some 100,000 shares of stock and apparently was on the way to Tulsa to block the plan if possible. When he arrived in Tulsa, however, he was given access to all the company's records despite the fact the plan already had been approved. After three days of close study during which he is said to have stated frankly he was attempting to find "something wrong" he headed back to New York, and while enroute decided to have a luncheon for the stockholders he had represented and at which he would have as guests the officials of the Barnsdall Oil Corp. and the Bareco Oil Corp.

The list of 85 or more guests was quite an impressive one in financial circles. At the conclusion of the luncheon Rich frankly told his guests about his trip, paid compliments to the officials of the two corporations and said he was convinced the plan was to the best interests of the stockholders.

Rich explained that the SEC had told the Barnsdall Oil Corp. to divorce itself more completely from the refining corporation or else consider it on its books as a subsidiary company.

"Before the adoption of the plan," he said, "Barnsdall Oil Corp. owned 5 per cent of the common stock of the refining corporation while under the recapitalization plan it will own about 87 per cent. In 1935 the oil company gave away the refining company as a stock dividend. One of my objects was to find if they now were trying to take it back."

The plan as adopted called for each of the 21,635 shares of preferred stock of $100 par value to be changed into 10 shares of common stock of $5 par value each; also for the 1,129,390 shares of common stock of par value of $1 each now outstanding to be changed to one-tenth share of common stock of $5 par value each.

The Barnsdall Oil Corp. would be issued 500,000 shares of common stock of $5 par value each in exchange for the $5,000,000 outstanding principal amount of 4 per cent Income Debentures, due June 1, 1945, now held by the Barnsdall Oil Corp.

The plan also included issuance of a new promissory note of $2,727,269.70, to mature in five years and to bear 3 per cent interest.

Texas Oil Men Tell Texas About Texas Oil Industry

DALLAS, Tex.—Every Texan who can read or be read to is going to learn this year about Oil, the biggest industry in the biggest state where all but nine of its 254 counties obtain some benefit through one or more forms of expenditure by the oil industry.

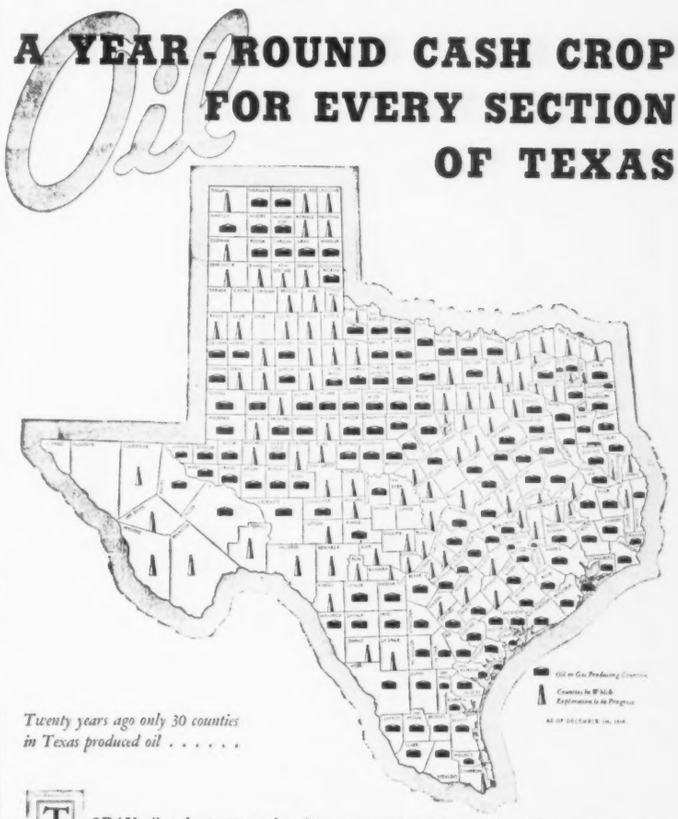
The telling is being done by the Texas Mid-Continent Oil and Gas Ass'n. through a series of educational advertisements which are appearing once a month in 106 dailies and 500 weeklies. The list contains every English-language publication in the state. It is the largest advertising program ever run on a year basis in the state.

The association's staff has gathered an exceptionally large quantity of statistical data which will be presented in easily understood, visual form, through illustrations by a Dallas artist.

Major points to be covered in the campaign are the contributions of the industry to education, taxes, government, payroll and general well being of the state.

"We are living so close to the industry in Texas," said George C. Gibbons, association secretary, "that we are prone to lose sight of its magnitude and its importance to the state. We are prone to take the industry 'for granted.' The industry through the association has decided upon this educational series, therefore, to acquaint Texans in as striking a manner as possible with what oil means to each individual in the state.

"If through this institutional advertising program we can stimulate an industrial program that will bring textile mills into the state, for instance, we can both help the state by increasing employment and the industry by, incidentally, causing the use of more Texas oil at home."


A YEAR-ROUND CASH CROP FOR EVERY SECTION OF TEXAS
Oil
Twenty years ago only 30 counties in Texas produced oil . . . . . .
TODAY oil and gas are produced in 147 counties. Ninety-eight additional counties are receiving the benefits of leasing and exploration activities.
Thus in 245 of Texas' 254 counties, business, government, tax collector, wage earner, farmer and rancher receive their part of the oil man's expenditures every month in the year.
Even the dry holes (52,000 drilled to date at a cost of a billion dollars) contributed their share of employment and wide distribution of money.
Last year land owners received fifty million dollars in lease rentals and bonuses alone.
In many counties where oil is a major factor, local government receives as much as 90% of its total tax revenue from the oil business.
Then, too, the State collects 45% of its tax money (exclusive of the gasoline tax) from the oil man. In 1938 this was thirty-two million dollars.
Every barrel of oil produced in Texas in that year paid an average of 9.3 cents tax.
This Advertisement Paid for by Various Units of the Industry and Sponsored by
TEXAS MID-CONTINENT OIL AND GAS ASSOCIATION

One of the "ads" run by Texas Mid-Continent Oil & Gas Ass'n. to tell their fellow Texans how much the oil industry means to the Lone Star State

Oil Transportation News

Latest developments in freight rates, legislation, regulations, and new construction affecting transportation of petroleum products by truck, barge, tanker, pipeline, and railroad.

Trucks and Barges Recover from Storm

N. P. N. News Bureau

WASHINGTON, Feb. 5.—Truck and barge movement of petroleum products in the South Atlantic area will be back on a normal schedule this week, following the most crippling snowstorm and cold spell in history.

The James River is expected to be clear up as far as Richmond (head of navigation) this week; the York River is going to be clear; the Cape Fear River, in North Carolina, only temporarily closed, is now open for navigation; and rivers farther south either were not tied up, or, if they were, are now open.

As for truck movements, transporters in the Carolinas, Georgia, Florida and Alabama report that they are again moving on schedule, and that unless another storm shows up, they will continue to so operate.

The Petroleum Transit Corp., Jacksonville, operating in the Carolinas, Georgia, Florida and Alabama, says all its trucks are now operating on schedule, and other trucking companies add that, despite the snow and cold, their vehicles are again moving.

Other motor carriers of petroleum products, some of whose trucks were snowbound in the mountains of the western Carolinas and Georgia for several days last week and the week before, are again resuming normal schedules.

Barges and tankers are again moving up the James River as far as City Point, but up to the week-end they were still unable to get as far as Richmond. The tankerload of fuel oil which was delivered at City Point, previous to the storm, has supplied most of the distributors in both Richmond and Petersburg areas.

Companies using the Cape Fear River for barging from Wilmington to Fayetteville (McMillan and Cameron, Republic, and Petroleum Transit) report that their barging operations are back on schedule, and that trucks are carrying supplies away as fast as they are delivered by water.

The Savannah River was only partially frozen, and, had vessels wanted to move up as far as Augusta, they could have at any time, but for the cold. However, now that the weather has become more temperate, barging on the Savannah has been put back on schedule.

Only a few marketers who had to resort to rail transportation (instead of barges and/or trucks), have resumed their regular mode of transportation, and the rail traffic is about back to the point at which it was before the storm.

One Richmond marketer said that the storm had played more havoc with the city and surrounding territory than General Grant in the War Between the States.

Trucks which a week ago were straining to deliver fuel oil to communities where there was a shortage have returned to their normal business of transporting gasoline; and delivery trucks in cities—Richmond, Petersburg, Raleigh, Charlotte, Winston-Salem, Columbia, Charleston and other cities—which had been converted for the moment into fuel oil delivery vehicles, are now cleaned out and again hauling gasoline to service stations.

Southeastern Pipeline Hurdles Two Barriers

ATLANTA, Ga., Feb. 3.—Two of the legal barriers confronting construction of Southeastern Pipe Line Co.'s gasoline line from Port St. Joe, Fla. to Atlanta and Chattanooga were cleared up last week by court decisions. In a ruling handed down by Superior Judge B. C. Gardiner of Camilla, Ga., the pipeline company's right of eminent domain was confirmed and a temporary injunction that had held up construction of the line in Decatur County was dissolved, it was said. The ruling cited an act of Georgia's legislature in 1937 as giving the company the right to institute condemnation proceedings in order to obtain easements.

For awhile it looked as though the construction company for the pipeline would be forced to tear out that section of the line running under the tracks of the Seaboard Air Line railway near Bainbridge, Ga. Judge Alexander Akerman at Orlando, Fla. had so ordered, but an appeal to the federal court of appeals at New Orleans brought a stay of the lower court's ruling.

Justice S. H. Sibley, of the New Orleans appellate court, who ordered the stay, ruled that during pendency of the appeal the pipeline should not be used. He also ordered that if the railroad was aggrieved by the order, an appeal for stay of his order could be made by the pipeline company.

The railroad contended at the hearing that the pipeline had no right to lay the line, but to this the pipeline attorneys countered with assertion the railroad held only surface rights of way. Under-surface easements had been obtained from property owners, the pipeline representatives said.

Georgia's attorney general is also looking into the question of rights of way and eminent domain. Rails have contended that legislative approval must be obtained before the pipeline can be laid under state highways. The attorney general's findings on this have not yet been released.

Refiners Seek Asphalt Rates

TULSA, Jan. 29.—Contending that asphalt and road oil should not take higher rail freight rates than gasoline and other refined oils, Mid-Continent shippers propose that these road building materials be included in the recently-reduced scale of rates affecting refined oils shipped from Kansas and Oklahoma points to Arkansas, Kansas, Missouri and Oklahoma destinations.

The proposal (docketed as S.W.F.B. 19337) points out that the road materials were probably inadvertently left out of the tariff that provided for an approximate 35 per cent cut in other refined oil rates to meet truck competition. Shippers of asphalt and road oil claim competition from trucks also and seek a truck-competitive rate scale for their products.

Representative of the "truck competitive" rate scale proposed for road oil and asphalt are those rates shown below in cents per hundredweight:

5 to 10 miles	3.5
45 to 50 miles	6.0
95 to 100 miles	8.5
145 to 150 miles	11.0
195 to 200 miles	16.0
245 to 250 miles	20.0
295 to 300 miles	23.0
395 to 400 miles	30.0
495 to 500 miles	37.0
595 to 600 miles	43.0
670 to 675 miles	48.0

Rate Cut to Alabama Points Considered

N. P. N. News Bureau

WASHINGTON, Feb. 3.—Southern Freight Assn. has under consideration a downward revision of rail freight rates on gasoline and kerosine from Birmingham, Mobile and other Alabama points, and the New Orleans-Baton Rouge Group, to Alabama points and certain Tennessee destinations to meet truck competition (SFA Docket 4757-T), traffic men here are informed.

The following rates are exemplary:

To	From Birmingham		From Ensley, Ala.	
	Present	Proposed	Present	Proposed
	(Cents per gallon)			
Anniston, Ala.	0.66	0.63	0.73	0.66
Calera, Ala.	0.40	0.36	0.43	0.40
Decatur, Ala.	1.12	0.86	1.19	0.92
Talladega, Ala.	0.63	0.53	0.79	0.63

Truck Operating Costs—Correction

Itemized cost figures for operating 3500-4000 gallon transport trucks in the Middle West, as given in manuscript of speech by Charles Yokom, Detroit, of Petroleum Transit Corp., at the Northwest Petroleum Assn.'s convention, were incorrect in that the item for wages should have been 4.5c instead of 0.45c (See, N.P.N., Jan. 31, Pages 22-23). Repeating the itemized list of costs, including the correct figure for wages:

Item	Per Mile Cost
Wages	4.5c
Gasoline	2.90c
Oil	0.75c
Tires	0.50c
Repair labor	1.25c
Material	1.75c
*Insurance	0.80c
*License	0.50c
*Taxes	0.03c
Depreciation	3.00c
TOTAL	15.98c

* Fixed items which can only be approximated.

ICC Calendar
On Oil Trucking

Decisions

Kit F. Clardy, et al.—Control—Bulk Haulers, Inc. (MC-F-878) Purchase by Bulk Haulers, Inc., of certain operating rights of Petroleum Transit Corp., and acquisition by (a) H. C. Griffin, Walter F. Mullady, and John B. O'Connor, of Chicago, Ill., and (b) Kit F. Clardy, Lansing, Mich., Edward S. Turner and Charles J. Yokum of Detroit, Mich., of joint control of Bulk Haulers, Inc., through ownership of its capital stock, approved and authorized.

George D. Miller, Scranton, Pa. (MC 6637, Sub. 1) Permit granted for operation as a contract carrier of petroleum products from Bayonne and Bayway, N. J., to points in a defined area in Pa. over irregular routes.

Ray Kundel, Minden, Iowa. (MC 91443). Certificate granted to operate as a common carrier of petroleum products in bulk from Superior, Nebr., to Minden, Wiota, Sac City, Lytton, and Stratford, Iowa; of livestock from Minden and points within 12 miles thereof, to Omaha, Nebr.; and of general commodities from Omaha to the above-specified Iowa territory, over irregular routes.

Hearings

Pacific Inland Transport Co., Portland, Ore. (MC 60306, Sub. 6) Feb. 28, Boise, Idaho, on application to extend operations as a common carrier of petroleum and products in Wash., Ore. and Idaho, over irregular routes.

Boyd Transportation Co., Boise, Idaho. (MC 33608, Sub. 2) Feb. 29, Boise, on application to extend operations as a contract carrier of petroleum and products in Idaho and Ore. over irregular or regular routes.

Sohio Builds New Line

CLEVELAND, Feb. 3.—Sohio Pipe Line Co., subsidiary of Standard Oil Co. of Ohio, announces that contracts for construction of a 12-inch pipe line from Stoy, Ill., to Hagerstown, Ind., a distance of approximately 150 miles, have been awarded. Line will parallel an old six-inch line acquired by Sohio last summer.

Nine Governors Hit Federal Oil Control

(*Continued from page 9*)

pected to join this year—he did not name the states.

Texas Still Ag'in It

After Ratner's statement, Jerry Sadler, member of the Texas Railroad Commission, who was in the audience, announced to the Committee that he and Colonel E. O. Thompson, also a Texas railroad commissioner, were attending the hearings but did not intend to participate unless it was necessary "to protect the good name of Texas." Sadler said the Texas Governor, W. Lee O'Daniel, was not among the governors present, "as he is busy writting some poetry." However, Chairman Cole placed a telegram from Gov. O'Daniel, opposing the bill, in the record.

Short statements were made by Gov. Holt, W. Va., and Gov. Carr of Colo. during the morning session. They were scheduled to be followed on the stand by Gov. Miles, N. Mex. Other state chief executives in Washington for the hearing are Governors Ayers, Mont.; Smith, Wyo.; Phillips, Okla. (Chairman of the Interstate Oil Compact Commission); Bailey, Ark., and Rivers, Ga. The Governor of Mississippi sent as his personal representative H. M. Morse, William S. Rial is personal representative of the Governor of Pennsylvania and Ralph T. Zook represents the Louisiana executive.

As the hearings opened today a number of members of the House Interstate Commerce Committee who are not members of the subcommittee were on the rostrum, and former Sam Pettengill, who was a member of the subcommittee during its 1934 investigation, also sat with the committee. The four subcommittee members present were Chairman Cole, Rep. Kelly, Ill., Pearson, Tenn., and Holmes, Mass. Chairman Lea, Calif., sat in on the hearings as did the following other members of his committee: Reps. Boren, Okla., Beckworth, Tex., Bulwinkle, N. C., Patrick, Ala., Crosser, Ohio, and Hinshaw, Calif. Indications were that the hearing would continue through this week and possibly into next week.

Government Contract Rules Issued by Labor Department

N. P. N. News Bureau

WASHINGTON, Feb. 3. — Status of four groups of oil industry employes under the Walsh-Healey Public Contracts Act has been clarified in new regulations laid down by the Division of Public Contracts, Labor Department, recently (Rulings and Interpretations No. 2).

The Walsh-Healey Act provides that firms filling a government contract of $10,000 or more must comply with certain regulations as to wages and hours of employes as laid down in the Act and by the Secretary of Labor under the Act. It should be noted that where the Act and the regulations use the term "dealer" it is broader than just a gasoline retailer but includes wholesale marketers.

In the recently issued rulings, the Division holds:

"Service-Station Operators: The representations and stipulations of the Public Contracts Act are required to be included in any Government contract for the manufacture or furnishing of materials, supplies, articles, and equipment in any amount exceeding $10,000. All indefinite amount contracts which may exceed $10,000 should include the stipulations, unless the contracting officer knows in advance that the total amount of the contract will not exceed $10,000 in any event. As applied to contracts for oil products requiring service-station deliveries of such products, the above requirement must be met; however, the stipulations of the Act included in the contracts are not applicable to employes working at the service stations, irrespective of whether the station is owned or operated by the contractor or by an independent contractor.

"Oil-dealer's Employes: Where the contractor is a dealer, the Act applies to employes at the central distributing plant, including warehousemen, compounders, and chemists testing the lot out of which the Government order is filled, as well as the crews engaged in loading the material in vessels, tank cars, or tank wagons for shipment, and truckers making deliveries to the Government from such plant. The contractor is not required to show that employes at bulk stations and truckers making deliveries from those stations are employed in accordance with the standards of the Act. (Bulk stations as the term is used herein are intermediate points of storage between a central distributing plant and service stations.)

"Refined-oil Production: In contracts for gasoline, kerosine, benzine, fuel oil, and other petroleum products in which the contractor is a refiner, the Act applies to employes engaged in the manufacturing; i.e., the employes at the refinery engaged in the refining processes and preparing the oil for shipment.

"Barge crews and truckers transporting oil from the refinery to the contracting agency are not held subject to the provisions of the Act.

"Where the contractor operates a plant in accordance with the requirements of the Public Contracts Act and supplies the Government with oil products from storage at that plant (part of which products were produced by others), the contractor is not required to show that the products obtained from other sources were produced in accordance with the requirements of the Act.

"Crude-oil Production: In contracts for the delivery of crude oil where the contractor is a producer, the Act covers the employes engaged in extracting the oil and preparing it for shipment."

NPN's Log
On Oil Legislation

Oil legislative information, summarized below, is based on reports received at Cleveland from Washington and state capitals which are deemed reliable although NATIONAL PETROLEUM NEWS assumes no responsibility for the accuracy or completeness of this information.

CONGRESS

Senate Bills

S-3263 Hayden, Ariz.
Authorizing states and counties to participate in fees charged at national parks. Public Lands Committee.

House Bills

HR-8288, Schulte, Ind.
New pollution bill authorizing loans to public bodies and nonprofit organizations for stream-pollution control. Appropriations Committee.

State Bills

California

S-87, Kenny.
Imposes 2 per cent severance tax on petroleum natural gas and natural gasoline.

Kentucky

H-264, Hunnicutt.
Places annual tax of $25 on oil wagons selling and transporting petroleum, gasoline and oils.

Mississippi

SCR-9, Rice.
Provides for investigation by Public Service Commission of Intrastate rate schedule on natural gas. To Railroads Committee.

H-167, Boutwell et al.
Adds provision to 1932 law to impose absolute liability for damage caused by the flow of salt water, oil and refuse. To Conservation Committee.

H-168, Boutwell et al.
Amends law of 1932 to add section for prevention of injuries to the surface of oil lands. To Conservation Committee.

H-169, Boutwell et al.
Provides for raising of additional public revenue, and to amend 1934 law to provide a more just and equitable imposition of taxes upon the business of producing oil. To Ways and Means Committee.

H-171, Boutwell et al.
To prevent oil operations from polluting fresh water. To Conservation Committee.

New Jersey

S-64, Stranger.
Creates state voluntary general hospital fund to be financed by various motor vehicle receipts.

New York

A-13, Milmoe.
Creates committee to study problems connected with highway construction, supervision of vehicular traffic, installation of traffic signals and regulation of outdoor advertising. Appropriates $15,000. To Ways and Means Committee.

A-955, Bennett.
Same as S-771. Includes unexpended money received from motor vehicle and motor fuel taxes in amount counties may use for highways.

OIL TAX NEWS

Fuel Oil Tax Urged By C.I.O. Coal Union

N. P. N. News Bureau

WASHINGTON, Feb. 5. — United Mine Workers (C.I.O.) resolved to foster experimentation leading to use of coal for liquid fuel purposes, equalization of fuel prices through a tax on fuel oil, and other so-called coal-aiding steps at the U.M.W. convention last week in Columbus, O.

"Petroleum competition," said the U.M.W. report, "presents several grave problems to the coal industry:

"1. It offers a more suitable refined by-product in competition with crude coal.

"2. It reduces the price of fuel oil below the average cost of production by boosting the price of gasoline.

"3. The cost of labor involved in the production of petroleum is much lower than the cost of labor in coal mining, largely due to low wage rates in the field outside of refineries.

"4. Finally, the transportation cost, through operation of pipelines, is incomparably lower than the cost of coal transport.

Remedial Measures Urged

"The obvious remedial measures should logically be directed to correct the above distortions:

"1. Encouragement of research by the capital side of the industry, and installation in the coal industry of liquefaction plants to produce gasoline . . . from coal; various processing of coal and distillation for multiple products. . . . .

"2. Educational and legislative campaigns must be directed toward equalization of prices on petroleum products—that is, toward lowering the prices of gasoline and kerosine with corresponding increase in price of fuel oil.

"A. As a temporary corrective measure a tax on fuel oil should be advocated along the lines of the federal gasoline tax of 1 cent per gallon or more.

"3. Movement toward better organization of nearly 700,000 oil workers. They must be actively organized with the view of raising wage rates of all petroleum workers outside of refineries.

"4. Pipe line transportation should be brought within the purview of the law forbidding common carriers by the producers of the goods shipped."

Opposes Natural Gas

Following an explanation of the above recommendations, the U.M.W. resolution points out that the union is opposed to the competition of natural gas because it:

"1. reduces employment; 2. reduces purchasing capacity of the wage earner; 3. increases relief expenditures and taxes; 4. burdens capital with idle investments to be written off, or increases fixed charge burdens on maintenance of discontinued gas plants, 5. reduces railroad tonnage, and 6. jeopardizes the petroleum recovery and thus potentially diminishes the national defense resources."

"In general," the resolution continues, "it is not possible to control the depletion of natural energy sources and forestall wanton disemployment in the coal industry without a broad national policy which embraces not only the coal industry but at the same time also regulates production, transportation, distribution, and the pricing of all integrated energy sources of the nation."

W.P.R.A. Summarizes State Oil Tax Laws

N. P. N. News Bureau

TULSA — The staff of the Western Petroleum Refiners Ass'n. is assembling data for the compilation of a digest of the states' tax laws relating to refined products.

The tax law digest will be printed on special size paper so that it will fit in the loose leaf book of inspection laws the association recently issued.

The two digests then can be kept in the one loose leaf cover which the association supplied each member at the time the inspection laws digest was issued.

By using the loose-leaf system owners of the digest can remove any section that might become obsolete through revision in the laws and insert the revised section which the association plans to send out whenever a revision is made.

Station Selling Accessories Held Under Texas Chain Tax

By Teletype

BIG SPRING, Tex., Feb. 5.—A test case to determine status of oil company service stations under Texas "chain store" tax is on its way to an Appelate court following decision in District Court here past week in which the Judge held the company was liable for the tax.

The case was filed by State against Standard Oil Co. of Texas, and alleged the company owed $2,288.87 because it operated eight service stations which were outside the exemption because tires and other accessories were sold in addition to petroleum products. State also contended the company operated in 12 other states under distributor agreements but that it actually controlled the stations and were, therefore, liable for the chain store tax.

District Judge Cecil Collings ruled the company was liable for the tax, and company filed notice of appeal. Attorneys for Standard Company argued that sale of accessories was necessary for "service," also that ground control was the actual element in determining control of stations.

State comptroller has estimated that oil companies operating stations in Texas owe approximately $1,000,000 in chain store taxes. Suits are reported to have been prepared against a number of other companies.

Tax Rulings Issued On Sales of Butane

N. P. N. News Bureau

WASHINGTON, Feb. 5.—Rulings on the applicability of the federal tax on motor fuels of one cent per gallon, to commercial butane (liquefied gas) have been made by D. S. Bliss, deputy commissioner of the Bureau of Internal Revenue.

Where sales are direct to consumers in cylinders for domestic, commercial and industrial uses and not for motor fuel purposes, sales may be made tax-free without exemption certificates from each consumer.

Where sales are in cylinders by the producer to vendors the tax must be paid, regardless of the usage. Refunds will be made on sales for other than motor fuel usage, where the producer secures a certificate from the vendor to this effect. Certificates are not required from consumers.

Where sales are by the vendor into consumers' storage tanks, refunds may be secured by the producer on sworn statement of the vendor that the butane was for domestic, commercial and industrial heating and burning purposes and not for motor fuel purposes.

(In figuring the tax a conversion factor of 4.86 lbs. per gallon is used.)

Oil Scouts Meet May 16-18

TULSA, Jan. 29.—The National Oil Scouts Assn. will hold its annual convention this year in Little Rock, Ark. Tentative dates have been set for May 16, 17 and 18.

U. S. Oil Is 'Refined'

N. P. N. News Bureau

WASHINGTON—Mrs. Charles S. Demaree, "Foreign Policy Chairman" of the Missouri League of Women Voters, writes of "Trade Agreements — Your Affair and Mine", in the January bulletin of the League. Her article was inserted in the CONGRESSIONAL RECORD by Sen. Truman of Mo. Speaking of the reduction in the oil import tax in the Venezuela Agreement, Mrs. Demaree says:

"It is important that we discover the facts before we conclude we are hurt. Venezuela oil is limited by quota to a small per cent of United States production. It is the crude type used in oiling streets. United States producers refine their oil, thereby securing a higher quality and price."

Court Denies Refund of Tax On Montana Leased Stations

N. P. N. News Bureau

CHICAGO, Feb. 5.—Standard Oil Co. of Indiana has applied for a rehearing of the Montana Supreme Court's recent decision holding that the company was not entitled to a refund of license fees paid during 1934, 1935 and 1936 on its leased stations under the Montana chain-store tax law of 1933.

Suit was filed by the Indiana company to recover the fees which had been paid under protest. Lower court had held that the company was entitled to recover on ground that the leased stations were not "controlled" by the supplying company.

Leasing arrangements involved in the case, it will be noted, were those in use several years prior to inauguration of the so-called Iowa Plan of turning over stations for dealer operation. But the case is of interest to oil marketers generally from the standpoint of the appellate court's reasoning in arriving at its conclusion.

Cites 'Control' Measures

The Montana Supreme Court held that the leased stations were "controlled" by the supplying company, citing as "evidence" of this control the six-month cancellation clause then included in lease forms, the requirement that gallonage rentals be paid on delivery and that station be surrendered at expiration of term with same paint scheme. Court made much of the fact that the leased stations almost universally sold products of the supplier exclusively.

The decision also noted that there was "other testimony as to advertising which shows the true status of the plaintiff, and which tends to show that it comes within the provisions of the statute, such as testimony that it inspected the various stations, the manner in which the business was conducted, and testimony that it offered courses of instruction to operators and instructed them as to methods, etc." However, the supreme court indicated that it would have reached the same conclusion even without this testimony.

Company's Position Stated

Company contended, the decision indicated, that a license tax on it, as the lessor of the station operator, was discriminatory in that other land-owners were not similarly taxed. But the court held that the primary purpose of the station leasing arrangements was to secure the sale of the company's products and that this was a sufficient distinction to authorize the classification of the oil company separately from other landlords for purpose of taxation.

Discussing the "object" of the station leasing arrangements, the decision said:

> "The ultimate object of the arrangements on the part of the plaintiff was to promote an increase in the sale of its products. By its wide-spread advertising, uniformity in architectural style of the various stations, the uniformity of the paint designs and color, the signs on the stations, the roadside signs and control of the products to be sold, it is given advantages in the distribution of its products which independent operators would not have. The mere fact that the various stations are held under lease by a technically independent operator does not eliminate the fact that by the method of operation here followed by the oil company it gained advantages over the one-station unit."

Title of the case is *Standard Oil Co. (Indiana) vs. State Board of Equalization of the State of Montana et al.* Decision was dated Jan. 24, 1940, and the case was No. 7993.

Baby Award Costs Esso $10,000 to Date

N. P. N. News Bureau

NEW YORK, Feb. 5. — The "Esso Baby Award" on Jan. 1 of the Standard Oil Co. of New Jersey to date has cost the company close to $10,000 and it has not yet been able to pay off on the majority of single births, because of delay in birth figures being reported.

The company settled on one set of triplets, 29 twin births and 652 single births, in its offer to pay $250 to each of triplets born Jan. 1 within the 18 states in which Esso markets, $100 to each twin and $5 to each single baby. Multiple births it found easy to spot, but it believes that there were close to 3000 single births in its territory and will make every possible effort to get the money into the bank for every child born.

The company further capitalized on the Baby Award by a television broadcast Jan. 5 from Radio City, when a number of fathers of children born on New Year's Day were interviewed before the television camera. Quite a bit of good-natured kidding arose from the plan, births of puppies, kittens and calves being reported. The company stated it was extremely pleased with the public's reception to the Baby Award.

Rules On Patent Case Appeal

CLEVELAND—The U. S. Circuit Court of Appeals at Philadelphia on Dec. 4 sustained the lower court which a year ago held invalid certain claims of U. S. Patent No. 1,735,261 covering flame arresters of the Johnston & Jennings Co.

Suit was originally brought by Johnston & Jennings against The Neville Co., Ross Mechanical Supply Co. and The Vapor Recovery Systems Co. charging infringement of part of the claims of the Oceco flame arrester patent. The use of aluminum tubes in the device was the principal point at issue. Trial was in October, 1938, in the U. S. District Court at Pittsburgh and the decree handed down Feb. 20, 1939. The appeal was heard last October by the Circuit Court at Philadelphia.

DEATHS

John E. Winslow

John E. Winslow of the Shell Oil Co., Inc., St. Louis, died recently in Chicago following a short illness with pneumonia. Mr. Winslow was general chairman of the standing committee on social security matters of the Mid-Continent Oil & Gas Assn.

* * *

Joseph G. Whitaker

Joseph G. Whitaker, 74, vice president of the Omar Refining Co., died in a Tulsa hospital Jan. 30. Mr. Whitaker was a native of Philadelphia but moved to Tulsa about 15 years ago. His two sons, J. M. and Fred, also are officials of the refining company.

* * *

F. G. Fehl

F. G. Fehl, 64, Breckenridge oil operator, was fatally injured Feb. 2 at an oil well near here when he attempted to pull a belt from a pulley. He was caught by the belt and carried around the band wheel.

* * *

Dr. Ralph D. Reed

Dr. Ralph Daniel Reed, 50, former president of the American Assn. of Petroleum Geologists, died Jan. 29 at his home in Pasadena, Calif.

Exports Drop 1.26 Percent; Imports Are Up $4,000,000

N. P. N. News Bureau

WASHINGTON, Feb. 5.—Exports of petroleum and products from the United States in 1939 were valued at $383,700,000, compared with a value of $388,600,000 in 1938, a decrease of about 1.26 per cent, preliminary figures of the Bureau of Foreign and Domestic Commerce reveal.

Decrease would have been much greater, but for the sharp increase in exports of lubricating oils late in the year, mostly to European nations. Breakdown of exports by countries of destination is not yet available.

A table showing comparative figures for exports in December 1938 and 1939, as well as for the full years, follows:

EXPORTS

	1938		1939	
	December	Entire Year	December	Entire Year
Crude and all products ($1,000)	33,200	388,600	35,400	383,700
Crude ($1,000)	6,584	111,641	6,112	92,790
(1,000 bbl.)	4,884	77,254	4,656	72,064
Gas and fuel oil ($1,000)	4,593	56,356	3,709	54,405
(1,000 bbl.)	3,796	43,833	2,895	45,590
Motor fuel ($1,000)	11,808	103,544	9,425	96,997
(1,000 bbl.)	4,421	40,269	2,873	36,513
Lube oil ($1,000)	5,035	68,939	12,329	90,959
(1,000 bbl.)	667	9,328	1,301	11,865

Imports Up

The preliminary figures show that imports of petroleum and products for the entire year amounted to $43,500,000, compared with $39,500,000 in the preceding year. Only breakdown of petroleum imports is for crude, which shows that 34,106,000 barrels were imported in 1939 (valued at $23,289,000), compared with 26,048,000 barrels in 1938 (valued at $18,601,000).

WASHINGTON — Resolutions of the Wichita Chamber of Commerce opposing passage of the Federal Oil Control Bill (HR 7372) have been presented to both House and Senate.

Oil Industry Meets All Demands for Fuel Oil

Service to Consumer Placed First, With Cost Shouldered by Industry

(*Continued from page* 9)

period was limited to 20 per cent of their requirements, they said.

While the shortage of supply resulted in the oil being spread around figuratively as thin as a coating on a dusty road in Arkansas, consumers were supplied with oil. Consumers who had ordered 500 or 1000 gallon dumps, however were asked to take 100 gallons or less as the supply was stretched by companies, it was reported here.

While oil men here generally say that the eastern fuel oil industry is still not out of the woods—some believe it will not be unless a relatively mild February allows suppliers to catch up on fuel storage, tonnage was plying between the Gulf and the eastern seaboard replacing stocks depleted by cold weather, and boats for early position were tight at the all-time high levels reached late in December.

Offers 12,000 Barrels

One large company on the East Coast has offered to change its runs so as to make 12,000 barrels daily more heating oil available to any company that wants it. But so far they have had no takers. However, changing their refining operations would result in a proportionate decrease in production of high-octane blending gasoline, and it was believed that prices for this "new" supply might be somewhat higher than existing "tops" in supply contracts.

Another large eastern refinery, while admitting no surplus of fuel oil, expressed its willingness to supply any consumer, even those with contracts with other companies, to prevent their running out of oil. This presumably would be accomplished by a change in refining operations to cut in more fuel, with a consequent reduction in gasoline yield.

South American Oil Imported

Domestic supplies of fuel oil on the north Atlantic coast, especially Bunker C, has been augmented by supplies by Curacao and Aruba. One report was that 16 to 18 cargoes of heavy South American fuel had been lifted for import into U. S. Also, two cargoes of light fuel were reported sold for New York movement. One was kerosine, the other gas oil. Light fuel made from Mexican crude also has been imported into the New York harbor.

Meanwhile, top prices in contracts, coupled with the demand for bottoms which has kept tanker rates at record high prices, has resulted in the industry taking a beating from the standpoint of return for service and fuel rendered to consumers during the cold spell.

Top Prices Out?

Regarding future contracts for fuel oils—some companies were said to now favor contracts without maximum prices. The head of fuel oil sales for another large company said he believed that the present winter should have taught the industry a lesson when "contract time" comes around. He believes that "tops" in contracts will be scaled considerably higher than they are in existing agreements between suppliers and consumers and marketers.

Oil men met with New York's Mayor La Guardia Feb. 1 regarding his complaint about the fuel oil "shortage" (See NPN, Jan. 31, page 21.) The city administration was told by members of the industry that while consumers probably had not been able to get the amount of fuel they wanted, all were being supplied with sufficient oil to take care of needs.

Reason for the fiery little mayor's blast at the oil industry was due to consumers, generally range oil users, sending post cards to the city department of markets, indicating they were afraid of distress because of a shortage, it was said here. However, it was pointed out in the meeting that these consumers generally were customers of the peddlers, who do not operate with a contract for their supplies. Some peddlers may have been without oil, during the extremely heavy demand, but, industry representatives pointed out, customers of these peddlers were being supplied by other peddlers or marketing companies.

South American Price Cited

Reports were that the Bunker C fuel shipped to New York was available in South America at between 80 to 85 cents a barrel. This, added to the 10.5 cent import tax, and the prevailing boat rate of around 53 cents for North Atlantic movement would bring bunker C from Aruba laid down in New York at $1.43 to $1.48 cents a barrel. Present price at the Gulf of $1.00 to $1.05 plus 60 cents freight, lays down this oil at New York at $1.60 to $1.65 cents per barrel.

One Gulf refiner reported he had 80,000 barrels of light fuel in storage, but had a 110,000-barrel boat which would be in position to take on a cargo in three days. This refiner said he could sell eight cargoes of light fuel, if he had the oil.

Another Gulf refiner said that for the past month his plant had increased its production of light fuel from around 18 to 20 per cent of crude capacity to 28 per cent.

Must Take Gasoline Also

Many Gulf refiners were said to be insisting that purchasers seeking light fuel oil also take gasoline. One refiner admitted this to be a fact, pointing out that his refinery storage was full of gasoline and he couldn't manufacture light fuels, unless purchasers also took gasoline.

Some eastern marketers, with commitments to take gasoline from Gulf refineries reported they were storing this material at the Gulf, on account of the existing high freight rate to bring it around to the east coast.

Tanker Rates Cited

Domestic charter rates, for the fifth week have remained unchanged, with heavy fuel or crude from the Gulf to North Atlantic at 60 cents, with light crude or fuel at 53 cents.

Clean boats in this trade were done last week at 66, 69 and 72 cents, for gasoline, kerosine and light fuel oils respectively. However, one boat was fixed early last week at one cent higher, but a subsequent fixture was at rates previously prevailing.

Tonnage for early position was reported well in hand, although about six ships for heating oil movement during March were reported available.

Rates for clean tonnage from Aruba and Curacoa to North Atlantic ranged between 50 and 54 cents last week, with fixtures reported at these prices.

No off-shore fixtures were reported in the American Gulf last week, and no light could be thrown on existing boat rates between the U. S. and neutral foreign countries.

TNEC to Probe Fuel Oil Prices

N. P. N. News Bureau

WASHINGTON, Feb. 5. — Temporary National Economic (Monopoly) Committee has definitely agreed that it will hold hearings to consider fuel oil price increases, it was learned today. But the hearings probably will not be held before March 15.

TNEC referred to fuel oil prices in its sixth periodic "summary of the price situation," last week, as follows:

"The unusually cold weather

Oil Burner Standard Plan Pushed by Burner Institute

NEW YORK, Feb. 3. — Program of the Oil Burner institute to win acceptance for the commercial standards for oil burners, recently promulgated by the National Bureau of Standards, will begin with approaching banks that finance oil burners. Banks would be asked to require dealers to affirm that burners and installations comply with commercial standards.

The Institute plans to approach the National Fire Protection Ass'n and recommend that the commercial standards be incorporated as necessary part of the NFPA model ordinance governing oil burner installations.

Burner makers also plan to require a certification of dealers by their manufacturers, and will suggest that the standards be amended to provide that manufacturers certify as to dealers' ability to make installations in compliance with the standards.

The Institute also will provide a method of following up cities with more than 100,000 population to have them require compliance with the standards as part of municipal ordinances.

No recommendations for check-testing program has been made by the Institute's subcommittee on standards, but the subject will be introduced to the board of directors for open debate, when the board meets in New York, March 4.

Annual meeting of the OBI will be held April 2 at the Hotel Statler, Buffalo.

of recent weeks may partially answer numerous complaints about the price of fuel oil. One such complaint starts, 'Please take some action which will stop the drastic rise in price of No. 2 furnace oil for home heating.' This rise started from 5c per gallon to 6.25c in November, 6.50c in December, and to 7c on Jan. 1. This is an increase of 27.2 per cent.

"This increase, the complaint goes on to state, 'moves into the atmosphere of gouging'. It is, however, but part of, and less than, the general increase in the wholesale price of fuel oils in northeast ports from approximately $1 in August to $1.50 per barrel at the present time. The main reason given has been the sharp advance of tanker shipping rates from Gulf ports, although it is understood that most tankers in this service are owned by the companies themselves. Moreover, the increase in tanker shipping rates is sometimes explained by the increased cost of fuel oil."

East Coast Refinery Fuel Oil Stocks Up

N. P. N. News Bureau

NEW YORK, Feb. 6.—Refinery stocks of light fuel oils held by East Coast plants increased 88,000 barrels in the face of heavy demand, while stocks of gasoline held by these refiners were cut 45,000 barrels, indicating a change in refinery operations, with plants running more to the seasonal product, at the expense of unseasonable gasoline, according to report of refinery operations compiled today by the American Petroleum Institute.

Stocks position of light and heavy fuel oils on the East coast dropped a combined 245,000 barrels last week. The drop of 190,000 barrels in terminals, transit and pipeline stocks of light fuels offset the increase in refinery stocks. Heavy fuel stocks at East Coast plants were cut 143,000 barrels, with 101,000 barrels of the drop at refinery storage, and the balance of only 42,000 barrels at terminal storage.

Stocks of light and heavy fuel for the country as a whole, at refineries, terminals and in transit, were cut 1,025,000 barrels, according to the Institute's report.

Stocks of finished and unfinished gasoline for the country as a whole increased 1,423,000 barrels.

Operations at refineries in the country last week were at a slower rate, when 75,000 barrels less crude was processed daily.

Tulsa Congressman Maps Plan For Return of Oil Tariff Cut

By Teletype

WASHINGTON, Feb. 5.—Congressman Disney, Okla., told NATIONAL PETROLEUM NEWS today that he would continue to press the Ways and Means Committee to accept his amendment to the Reciprocal Trade Agreements Act, if extended. Disney's amendment would prohibit any reductions in excise taxes under reciprocal trade agreements.

The Oklahoman said his amendment, if passed, would constitute a declaration by Congress that it did not want excise taxes touched by the state department in making treaties. Such a declaration would then, he said, serve as a basis upon which opponents of the oil import tax reduction in the Venezuelan treaty could approach the State Department in an effort to have the reduction wiped out and the full import tax on foreign crude and fuel oil restored.

Under the Venezuelan treaty, the import tax was cut from 21 cents to 10.5 cents per barrel on an annual volume of foreign crude and fuel oil equalling 5 per cent of domestic refinery runs in the preceding year.

Some other members of the Ways and Means Committee have indicated, also, that something should be done about the oil tax cut. Rep. McCormack, Mass., and Rep. Dingell, Mich., both said they would get together with Mr. Disney in an effort to work out some method for restoring the full import tax, or at least getting a Congressional declaration that such taxes should not be reduced in trade agreements.

Rep. McCormack said that he believed the oil industry witnesses (which included Russell B. Brown and Wirt Franklin, representing the Independent Petroleum Assn. of America, Congressmen Boren and Ferguson, Okla., Beckworth, Tex., and others) had presented the best case for any individual industry opposing the treaties.

During the hearings late last week, Rep. Disney read into the record the article which appeared in the last issue of NATIONAL PETROLEUM NEWS (Page 9 headed "Tanker Rates Favor Import of Fuel Oils.")

He has also conferred with Secretary Hull and other State Department attaches this week concerning the oil import tax cut, but said nothing had been worked out as yet. It was after these conversations he said he wanted more than ever to get a Congressional "declaration" against cutting excise taxes.

Noel Robinson Goes To South Penn

NEW YORK, Feb. 5.—Noel Robinson has resigned as vice president and director of Tide Water Associated Oil Co., to become vice president and director of South Penn Oil Co. at Pittsburgh.

George J. Hanks was elected a director of Tide Water Associated, to succeed Mr. Robinson. He is vice president in charge of transportation of the eastern division and was recently made vice chairman of the operating committee of that division. Mr. Hanks has been with the company and its subsidiaries for 25 years.

Texas Hearing Set

By Teletype

AUSTIN, Tex., Feb. 6.—Texas Railroad Commission's next statewide proration hearing is scheduled for Feb. 16. This hearing is expected to take on added significance, since it will follow by four days the hearings by a three-judge federal court on three attacks on recent proration orders.

Gets U. S. Buna Rubber Rights

NEW YORK, Feb 3.—Rights for U. S. production of buna synthetic rubber have been acquired by Standard Oil Co. of New Jersey from I. G. Farbenindustrie, it was announced here.

The Jersey company expects to produce the synthetic rubber from refinery gases at an early date, and it has offered to license rubber companies to produce the material for their own requirements. The first production will be the perbunan type of specialty rubber for which there is a substantial demand in the U. S., the company stated.

Broker Files Damage Suit Based on Madison Oil Case

N. P. N. News Bureau

CLEVELAND, Feb. 5.—Latest treble-damage suit as an aftermath of the Madison oil cases, is that brought by T. R. Vaughn, Chicago oil broker, operating as T. R. Vaughn, Oils, against 12 refining companies, of whom 11 were defendants at Madison.

The suit, filed Jan. 31 in U. S. district court at St. Paul, Minn., charges that Vaughn's business was injured when Cushing Refining & Gasoline Co., of Cushing, Okla., allegedly refused to sell to him after he had testified for the government at Madison. The Cushing company was not involved in the Madison case. Vaughn's petition charges that the 11 other companies exerted "pressure" upon the Cushing company and that all 12 defendants conspired to refuse to sell gasoline and other products to him.

Vaughn says that, by reason of his agreement with the Cushing refining concern and his own diligence, he built up goodwill in his business to the value of $75,000. He asks for this amount as "actual damages," for court costs and attorneys' fees and, in addition, for $225,000, as three-fold the damages sustained.

Vaughn says from May 1, 1933, through the rest of that year he sold 612 cars of gasoline, oil and allied products and made a net profit of $4424.42. In 1934 he says he sold 1712 cars and made a net profit of $8823.96; in 1935, he states he sold 2412 cars for a net profit of $6546.27, and in 1936 he says he sold 1939 cars for a net profit of either $9322.32 or $3922.32, his petition carries both figures.

Commencing in 1936, Vaughn's petition states, "the defendants learned of plaintiff's knowledge of defendants' law violations, and learned that he had advised the Department of Justice thereof," and that thereafter the amount of gasoline he was allowed to purchase was greatly lessened and that later the Cushing company refused to sell him any gasoline or other products.

Defendants in his damage suit, in addition to the Cushing Refining & Gasoline Co. named, were: Barnsdall Refineries, Inc., Barnsdall Refining Corp., Shell Petroleum Corp., Standard Oil Co. of Indiana, Pure Oil Co., Sinclair Refining Co., Phillips Petroleum Co., Socony-Vacuum Oil Co. Inc.; Skelly Oil Co., Continental Oil Co., Cities Service Oil Co.

Cushing officials declined comment on the suit.

Texas Commission Bothered By Court Trouble Once More

N. P. N. News Bureau

TULSA, Feb. 5.—Another of those periodical protest storms descended the past week upon the Texas Railroad Commission.

The trouble this time was caused by the commission's February allowable order which placed all fields, except East Texas, back on a seven-day-a-week production basis and cut the allowables of many fields in order to keep total daily allowable production within reasonable market demand limits.

The protests against the February order have poured into the commission's offices at Austin from several quarters. Approximately 200 oil producers and business men in East Texas held a meeting in Dallas late in the week and discussed court action.

The East Texans apparently think they have been discriminated against because they are not being allowed to produce on a seven-day-a-week basis, but must observe 12 shutdown days during February.

From the West Texas area came protests that the reduction in production in the Permian Basin would amount to 652,000 barrels in February, a situation that will "most certainly bring about a business calamity."

Takes It to Court

The McElroy Ranch Co., which owns the land on which is located the Gulf-McElroy field in West Texas did not content itself with a protest. It went into federal district court and obtained from Federal Judge R. J. McMillan a temporary restraining order preventing the commission from enforcing its order with reference to that field and also preventing the Gulf Oil Corp., lessee and producer in the field, from obeying the commission's order.

In granting the temporary restraining order Judge McMillan said that it appeared to him that it would be better to maintain the status quo of Jan. 31 than to curtail oil production and incur a loss. The field's allowable production had been cut from 5279 bbls. daily to 2250 bbls.

"No harm can be done the commission," the judge said, "but some could accrue to the company."

Judge McMillan set Feb. 12 as date for hearing before a three-judge federal court to determine if restraining order shall be made permanent. He indicated he would be assisted by Federal Judge James V. Allred and Judge Edwin E. Holmes of Yazoo, Miss.

This is the third federal court attack against the commission's orders within the past few months, Rowan & Nichols Oil Co., Fort Worth, and the Humble Oil & Refining Co. having won injunctions in district court against proration schedules applied the past year to the East Texas field.

The McElroy Ranch Co. plea may become moot by trial date, since the commission gave some indication late the past week that it was going to back off its stand that it would make no changes in allowables during the month.

Adjustments Being Made

Adjustments already have been made in five fields, according to reports from the commission's offices, and Chairman Lon A. Smith was quoted as saying that the commission on its own motion could readjust field allowables. He also said that the commission would not permit operators to be penalized to the "point of discrimination" under the February order.

That more adjustments have not been made was intimated by the chairman when he pointed out the fact that Commissioners Jerry Sadler and E. O. Thompson were enroute to Washington for the Cole committee hearings and that it required a majority of the commission to sign an order.

Arkansas in Court, Too

The Arkansas conservation commission, meanwhile, is confronted with a chancery court suit filed by Lion Oil Refining Co. against the production schedule for the Schuler field in Union county.

The Lion company wants the formula changed from acreage times bottom hole pressure to sand thickness times acreage times bottom hole pressure.

The petition filed by the company with the commission before it took court action has been set for hearing by the commission for Feb. 16.

Sooner Quota Held in Line

N. P. N. News Bureau

TULSA, Feb. 5. — Now that the February allowable crude production orders for the southwestern producing states have been issued it appears that Oklahoma will be the only state to have its daily production anywhere near the Bureau of Mines' estimate of market demand this month.

The Oklahoma corporation commission has set statewide production allowable at 429,000 bbls. daily in February. This is the figure the Bureau of Mines used in estimating demand for Oklahoma crude this month.

The Texas railroad commission's February order set allowable approximately 18,700 bbls. daily above the Bureau's estimate.

The New Mexico conservation commission set allowable production at 113,000 barrels daily, or 13,000 bbls. above the Bureau's estimate.

The Kansas corporation commission's order sets allowable production at 165,000 bbls. daily, a hike of 4000 bbls. above the January figure and 9000 barrels above the Bureau of Mines' estimate.

Allowable in Louisiana in February was set at 273,253 bbls. daily. This is 20,453 bbls. daily above the Bureau's estimate.

The Arkansas conservation commission kept close to its January allowable with a figure of 70,000 bbls. daily, as compared with the Bureau's estimate for February of 60,000 bbls. daily.

California Crude Price Cut, Low Fuel Oil Price Blamed

N. P. N. News Bureau

LOS ANGELES, Feb. 3. — First downward revision of California crude oil prices in four years came Feb. 1 when Standard Oil Co. of California, made a reduction of 7 cents a barrel in its price for 27 gravity Signal Hill crude.

This brought its basic price for California crude to $1.03 per barrel, as compared with $1.10, which had been in effect since March, 1936. Other reductions ranged from 4 to 15 cents, differentials being based on the gravity of the oil and the location of fields in relation to refineries.

Standard's statement accompanying the announcement of the reductions said:

"The reduction is made because of a substantial weakening in fuel oil prices at the beginning of the year, and the new crude prices reflect this to the extent of the fuel oil content of the various gravities of oil."

Heavier grades of oil, being the chief sources of fuel oil, had the most severe price cuts and producers in the San Joaquin Valley will be among the chief sufferers.

At the close of the week, no other major company had announced that it would follow

Gulf Refiners Report No 'Unsold' Stocks of Fuels

HOUSTON, Tex., Feb. 5.—There were no unsold stocks of kerosine, diesel oil, gas oil or Bunker C fuel oil held by 10 Gulf coast refiners on Jan. 27, according to report issued by Gulf Coast Refiners Ass'n. Crude runs at these plants were curtailed 100,321 bbls. during the week, with a 96,260-bbl. increase reported in unsold stocks of motor fuel. Detailed report covering operations of G. C. R. A. membership is shown in next column. Figures in bbls.

	Houston District		Corpus Christi District		Louisiana District		TOTAL	
	Jan. 27	Jan. 20	Jan. 27	Jan. 20	Jan. 27	Jan. 20	Jan. 27	Jan. 20
Aviation gasoline	211,487	206,826	329,394	309,096	None	None	540,881	515,922
Motor fuel	227,355	220,646	479,428	411,312	113,643	92,208	820,426	724,766
Naphtha	5,986	None	210,720**	199,803*	None	None	216,706	199,803
Kerosine	None	1,411	None	None	None	None	None	1,411
Diesel oil	None	None	None	None	None	None	None	None
Gas oil	None	4,579	None	30,965	None	None	None	35,544
No. 5 fuel oil	None	None	25,605	13,980	None	None	25,605	13,980
Bunker C fuel	None	None	None	None	None	None	None	None
Crude runs	151,923	198,220	327,812	381,497	55,354	55,693	535,089	635,410

* High octane blending naphtha 117,828 bbls. ** High octane blending naphtha 124,964 bbls.

Standard's lead. Unofficial comments indicated that most of the major purchasers of oil would adopt a waiting policy and might not announce any decision for several days. One company that had been quoted as ready to adopt the new schedule, denied that it had authorized any announcement regarding its decision.

Opinion Differs

Strong differences of opinion were reported to exist even among the major companies as to the wisdom of making the reductions at this time. Judging by the statements issued by organizations of independent producers, opposition to the reductions on the part of these producers was almost universal. L. L. Aubert, president, Oil Producers Agency, in a prepared statement declared that preliminary estimates indicated that the income of California producing companies will be cut by about $20,000,000 a year.

Many oil men were said to acknowledge the reasonableness of Standard's position from a marketing angle, but questioned whether the desired results would be achieved without serious detrimental effects on the industry as a whole.

Every other reduction in crude prices during the past ten years has been attributed to overproduction. This time, however, producers point out that inventories accumulated in 1938 and the early part of 1939 are being reduced and also that allowables and production are being brought to a level with demand.

Standard has issued no reply to these critics and no one has been authorized to defend its policies, but officials of other companies that are believed to be generally sympathetic with its action have suggested that crude prices could logically have been reduced long ago. Their argument is that crude prices should have consistently related to the price of fuel oil which, from its peak of $1.10 per barrel in May 1937, dropped to $1.00 in Dec. 1937, $0.90 in May 1938 and $0.75 a month ago.

Expressing his personal opinion only, Roy E. Collom (vice-president of Continental Oil Co.), president of California Oil and Gas Ass'n. and Kettleman North Dome Ass'n., said minor marketing disturbances should not be permitted to disturb existing full co-operation within the industry.

Producing units, Mr. Collom said, co-operating on voluntary curtailment of production in 1939 have suffered a 35 per cent reduction of operating income as compared with 1938, although identical crude prices prevailed throughout both periods.

1939 Gasoline Demand Holds Lead in Stretch

N. P. N. News Bureau

NEW YORK, Feb. 3.—Gasoline consumption for 47 states and the District of Columbia for the first 10 months of 1939 was 5.66 per cent higher than consumption for the same period of 1938, according to figures compiled by the American Petroleum Institute from state gasoline tax and inspection reports (Oklahoma figures were not available in time).

Consumption for the 10 months of 1939 totalled 18,557,360,000 gallons, compared with 17,563,097,000 gallons for the same period the year previous in these states.

All states showed increased consumption of gasoline for the 10 months of 1939 over 1938. Only two states, however, had increases greater than 10 per cent, they were Nevada, 17.06 per cent and Wyoming, 11.64 per cent. Michigan had the next largest percentage increase, 9.88 per cent, with South Carolina, Arkansas and Mississippi grouped next with increases of 8.67, 8.63, and 8.37 per cent, respectively.

Kansas, with 2.03 per cent had the smallest increase of all states. North and South Dakota consumption increased 2.53 and 2.64 per cent during the 1939 10-month period over the same period of 1938.

October Gain Is 4.84%

Consumption for the country as a whole in October increased 4.84 per cent over October 1938. As was to be expected, however, October 1939 consumption declined from September of the same year, the reduction amounting to 55,390,000 gallons, or 2.77 per cent. The decline in October 1938 from September of that year was somewhat less than the drop in 1939, amounting to 22,100,000 gallons or 1.15 per cent.

Only four states, Arkansas, Rhode Island, Tennessee and South Dakota failed to increase consumption in October of 1939 over the same month in 1938. The largest drop in this month occurring in Tennessee, which was down 6.42 per cent. The reductions in the other states were less than one-half of one per cent.

October, 1939 consumption in Montana showed the greatest gain in percentage of increase over the same month last year, 13.15 per cent. Consumption in Mississippi increased 12.42 per cent, while gallonage in New Mexico jumped 11.53 per cent, the Institute's report shows.

Michigan Prorates

LANSING, Mich., Feb. 5.—Following a ruling by the state attorney general that he does not need approval of the conservation commission to effect a proration law, P. J. Hoffmaster, Michigan director of conservation, after a hearing here today issued an order limiting production in the Overisel field in Allegan county, Michigan to 100 barrels per day, per well, per lease, to become effective Feb. 1.

GASOLINE CONSUMPTION BY STATES, OCTOBER 1939

	Month of—			—10 Months Ending With—		
	Oct., 1939 Gallons	Oct., 1938 Gallons		Oct., 1939 Gallons	Oct., 1938 Gallons	
Alabama	21,643,000	20,756,000	+ 4.28	204,631,000	190,937,000	+ 7.17
Arizona	8,980,000	8,454,000	+ 6.22	87,903,000	84,681,000	+ 3.80
Arkansas	16,462,000	16,501,000	— 0.24	149,594,000	137,704,000	+ 8.63
California	156,583,000	153,814,000	+ 1.80	1,527,004,000	1,463,406,000	+ 4.35
Colorado	20,445,000	19,801,000	+ 3.25	202,193,000	193,170,000	+ 4.67
Connecticut	30,215,000	29,524,000	+ 2.34	288,294,000	273,284,000	+ 5.49
Delaware	4,953,000	4,704,000	+ 3.39	49,142,000	47,025,000	+ 4.50
District of Columbia	12,916,000	12,262,000	+ 5.33	124,333,000	115,874,000	+ 7.30
Florida	27,585,000	25,769,000	+ 7.05	298,096,000	278,322,000	+ 7.10
Georgia	31,071,000	29,494,000	+ 5.35	300,358,000	280,035,000	+ 7.26
Idaho	9,593,000	9,012,000	+ 6.45	84,226,000	80,582,000	+ 4.52
Illinois	128,456,000	121,846,000	+ 5.50	1,181,121,000	1,110,692,000	+ 6.34
Indiana	57,910,000	54,685,000	+ 5.90	559,657,000	527,871,000	+ 6.02
Iowa	47,878,000	46,088,000	+ 3.88	462,060,000	442,007,000	+ 4.54
Kansas	37,335,000	33,572,000	+11.21	409,451,000	401,322,000	+ 2.03
Kentucky	24,597,000	23,149,000	+ 6.26	228,154,000	212,699,000	+ 7.27
Louisiana	24,190,000	22,526,000	+ 7.39	209,821,000	203,101,000	+ 3.31
Maine	13,515,000	13,364,000	+ 0.83	127,673,000	123,748,000	+ 3.17
Maryland	25,565,000	23,900,000	+ 6.97	243,239,000	227,841,000	+ 6.76
Massachusetts	63,142,000	62,946,000	+ 0.31	602,522,000	574,906,000	+ 4.80
Michigan	101,647,000	92,428,000	+ 9.97	958,804,000	872,566,000	+ 9.88
Minnesota	50,336,000	48,663,000	+ 3.44	463,562,000	449,809,000	+ 3.06
Mississippi	19,979,000	17,771,000	+12.42	172,742,000	159,403,000	+ 8.37
Missouri	57,764,000	53,671,000	+ 7.63	540,840,000	504,913,000	+ 7.12
Montana	11,588,000	10,241,000	+13.15	104,988,000	101,413,000	+ 3.53
Nebraska	20,279,000	19,549,000	+ 3.73	197,151,000	189,585,000	+ 3.99
Nevada	3,922,000	3,877,000	+ 1.16	38,952,000	33,274,000	+17.06
New Hampshire	8,138,000	7,692,000	+ 5.80	78,201,000	72,470,000	+ 7.91
New Jersey	74,849,000	72,470,000	+ 3.28	728,059,000	695,946,000	+ 4.61
New Mexico	8,413,000	7,543,000	+11.53	79,564,000	75,030,000	+ 6.04
New York	168,197,000	162,354,000	+ 3.60	1,594,602,000	1,515,845,000	+ 5.20
North Carolina	37,776,000	35,608,000	+ 6.09	355,474,000	331,706,000	+ 7.17
North Dakota	10,453,000	9,818,000	+ 6.47	113,853,000	111,039,000	+ 2.53
Ohio	122,597,000	115,674,000	+ 5.98	1,140,530,000	1,067,250,000	+ 6.87
*Oklahoma	...	...	...	...	...	...
Oregon	21,643,000	20,273,000	+ 6.76	206,229,000	194,923,000	+ 5.80
Pennsylvania	133,001,000	126,982,000	+ 4.74	1,231,717,000	1,171,799,000	+ 5.11
Rhode Island	11,170,000	11,176,000	— 0.05	107,929,000	101,466,000	+ 6.37
South Carolina	18,109,000	17,098,000	+ 5.91	176,167,000	162,112,000	+ 8.67
South Dakota	10,412,000	10,445,000	— 0.31	112,316,000	109,429,000	+ 2.64
Tennessee	23,595,000	25,213,000	— 6.42	240,537,000	232,621,000	+ 3.40
Texas	114,748,000	107,336,000	+ 6.91	1,119,869,000	1,058,350,000	+ 5.81
Utah	8,762,000	8,275,000	+ 5.89	83,195,000	78,276,000	+ 6.28
Vermont	6,406,000	5,899,000	+ 8.59	57,830,000	54,395,000	+ 6.31
Virginia	32,542,000	31,189,000	+ 4.39	318,588,000	295,504,000	+ 7.81
Washington	30,306,000	29,397,000	+ 3.09	294,232,000	285,642,000	+ 3.01
West Virginia	18,251,000	17,606,000	+ 3.66	166,728,000	159,460,000	+ 4.56
Wisconsin	51,116,000	49,765,000	+ 2.71	476,708,000	457,246,000	+ 4.26
Wyoming	6,359,000	5,582,000	+13.92	58,521,000	52,418,000	+11.64
Total	1,945,484,000	1,855,762,000	+ 4.84	18,557,360,000	17,563,097,000	+ 5.66
Daily Average	62,758,000	59,863,000	+ 4.84	61,044,000	57,773,000	+ 5.66
Change from previous year:						
Total change	+89,722,000	...	...	+994,263,000	...	...
Percentage change in daily avrge.	+4.84%	...	...	+5.66%	...	...

*Not available.

Latest Oil Industry Statistics

Inventories, Dec. 31, 1939, of Pennsylvania Oils Other Than Lubricating Oils

(Compiled by National Pet. Ass'n. from reports of oil region refiners. Figures in barrels)

Naphthas and Gasoline	
(1) Straight run, unblended and/or unleaded, for sale as motor fuel	23,521
(2) Naphtha and gasoline, for sale for blending or further refining, or held at refinery for further distillation, reforming, blending or leading	307,962
(3) Below 65 octane, not included in (1) or (2) above	8,867
(4) 65 octane and above	359,706
Salable naphthas other than motor fuel (does not include Refinery Process naphthas)	37,885
Kerosine	118,257
36/40 gas oil (includes furnace oil)	106,598
Fuel Oil (not reported above)	26,813
Oils held as cracking plant charging stocks	444,316
Non-viscous neutral	16,238
Wax distillate	118,811
Crude petrolatum	20,223
Wax (lbs.)	4,868,915

Crude Oil Production for the U. S.

(American Petroleum Institute figures)

	Week Ended Feb. 3 Barrels	Jan. 27 Barrels	Jan. 20 Barrels
Oklahoma	405,650	417,600	419,900
Kansas	181,600	167,750	176,650
Nebraska	100	100	100
Texas	1,242,300	1,366,900	1,357,650
Louisiana	271,600	273,400	270,750
Arkansas	70,650	69,900	70,700
Mississippi	4,600	4,550	3,200
Illinois	372,950	356,200	366,700
Indiana	6,600	5,100	.....
Eastern (Ill and Ind. excluded)	94,850	90,250	103,400
Michigan	63,250	63,800	64,600
Wyoming	61,500	64,600	62,050
Montana	17,050	17,600	17,450
Colorado	4,800	3,700	4,100
New Mexico	101,050	101,050	100,000
California	600,200	609,100	620,200
Total U. S.	3,498,800	3,611,600	3,637,450
Crude Imports	91,430	45,430	85,430
Total New Supply	3,590,230	3,657,030	3,722,880

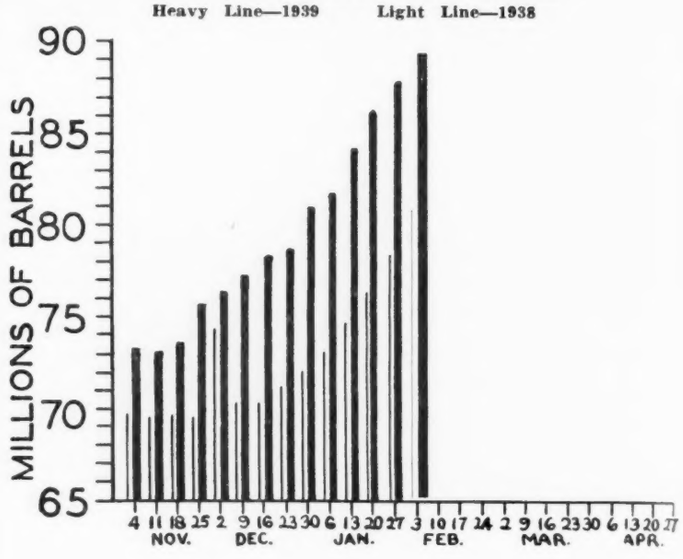
Stocks of Crude Petroleum January 13, 20, and 27, 1940

(Thousands of barrels)

Grade or origin	Jan. 13	Jan. 20	Jan. 27	Change from Jan. 20
Pennsylvania grade	4,606	4,555	4,494	— 61
Other Appalachian	1,432	1,449	1,421	— 28
Lima-Michigan	1,506	1,428	1,427	— 1
Illinois-Indiana	16,433	16,555	16,822	+267
Arkansas	2,804	2,885	2,828	— 57
Kansas	7,163	7,366	7,458	+ 92
Louisiana:	10,980	11,045	11,237	+192
Northern	3,677	3,685	3,677	— 8
Gulf Coast	7,303	7,360	7,560	+200
New Mexico	6,112	6,152	6,215	+ 63
Oklahoma	60,377	60,381	60,259	—122
Texas:	70,696	69,967	69,773	—194
East Texas	15,639	15,118	15,053	— 65
West Texas	15,499	15,466	15,678	+212
Gulf Coast	17,972	17,837	17,727	—110
Other Texas	21,586	21,546	21,315	—231
Rocky Mountain	17,899	17,888	17,820	— 68
California	35,695	35,651	35,469	—182
Foreign	2,546	2,249	2,116	—133
Total U. S. refinable	238,249.	237,571	237,339	—232
Heavy in California	13,336	13,344	13,177	—167

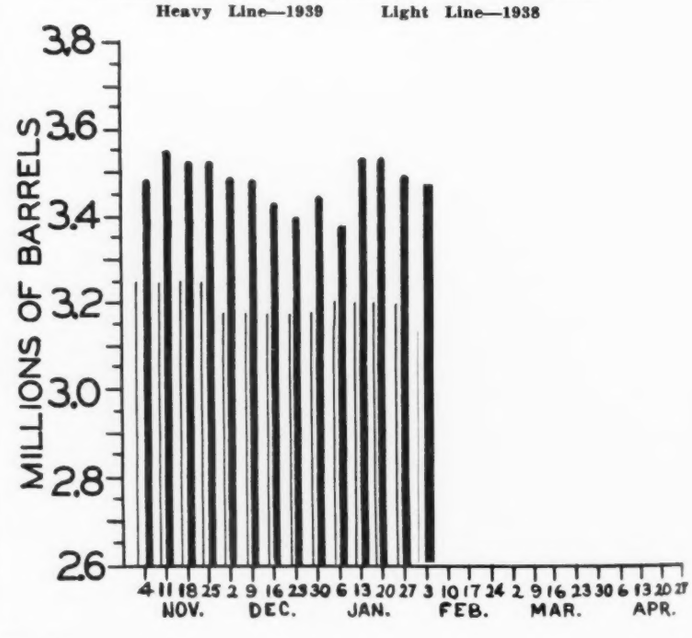
Total U. S. Motor Fuel Stocks

Heavy Line—1939 Light Line—1938



Daily Average Crude Runs to Stills

Heavy Line—1939 Light Line—1938



A. P. I. Weekly Refinery Report

(Figures in Thousands of Barrels of 42 Gallons Each)

Districts	Daily Average Crude to Stills Week Ended Feb. 3	Jan. 27	Per Cent of Reporting Capacity Operated Week Ended Feb. 3	Jan. 27	(a) Gasoline Production Week Ended Feb. 3	Jan. 27	Stocks Total Finished & Unfinished Motor Fuel (b) Week Ended Feb. 3	Jan. 27	Stocks of Gas Oil & Distillates At Refineries Week Ended Feb. 3	Jan. 27	At Terms. Trans. Pipelines Week Ended Feb. 3	Jan. 27	Stocks of Residual Fuel Oil At Refineries Week Ended Feb. 3	Jan. 27	At Terms. Trans. Pipelines Week Ended Feb. 3	Jan. 27
East Coast	538	554	87 5	90 1	1,508	1,526	18,715	18,760	2,994	2,906	4,392	4,582	3,404	3,505	4,028	4,070
Appalachian	116	122	80 0	84 1	430	435	3,893	3,963	238	257	188	148	544	522	.....	.....
Ind., Ill., Ky.	487	473	83 2	80 9	1,961	1,860	14,046	13,580	2,630	2,772	422	482	2,493	2,490	8	12
Okla., Kans., Mo.	246	255	71 9	74 6	(c)866	(c)891	7,944	7,615	1,164	1,214	21	18	2,036	2,134	.....	.....
Inland Texas	96	108	60 4	67 9	396	473	1,815	1,898	301	306	.....	.....	1,622	1,636	.....	.....
Texas Gulf	840	861	88 4	90 6	2,389	2,301	14,328	14,074	2,963	2,983	587	585	5,161	5,167	177	182
La., Gulf	118	141	67 4	80 6	298	272	3,103	2,924	687	755	20	19	562	640	270	281
No. La., Ark.	44	41	80 0	74 5	147	106	645	621	242	234	19	19	410	433	.....	.....
Rocky Mt.	47	50	73 4	78 1	207	212	1,477	1,411	161	157	.....	.....	460	455	.....	.....
California	498	499	66 8	67 0	1,341	1,427	17,151	16,948	7,421	7,584	1,681	1,646	57,069	57,306	22,282	22,147
Total Reporting	3,030	3,104	79 0	80 9	9,543	9,503	83,117	81,794	18,801	19,168	7,330	7,499	73,761	74,288	26,765	26,692
U. S. Total (d)	3,395	3,470			11,032	10,986	89,337	87,914	19,531	19,908	7,330	7,499	75,771	76,323	26,765	26,692
U. S. Total 2-3-40 (d)	3,134				10,653		80,089		22,606		9,325		83,466		32,247	

(a) Includes straight-run, cracked and natural blended.
(b) Includes stocks at refineries, in bulk-terminals, pipe lines and in transit.
(c) 12% of reporting capacity in this district did not report gasoline production.
(d) Estimated, U. S. Bureau of Mines basis.

Refining Technology

INCLUDING INTERNATIONAL PETROLEUM TECHNOLOGY

J. C. CHATFIELD, Managing Editor

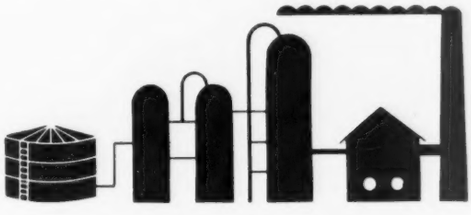
IN THE view of some observers the oil refining industry now is entering at least a five-year period of more than usual refinery building activity. The new building boom is expected to center on cracking and reforming with special emphasis on catalytic processing.

Even usual construction in oil refining is something to marvel at. Official figures of the U. S. Bureau of Mines for 1937 and 1938 showed that oil refiners built 773,000 barrels of crude capacity in those two years, an average of about 9 per cent per year. In 1939 the pace was even faster. A rough check of known projects built last year indicates that the government figures may record building of more than 400,000 barrels of crude capacity.

The two charts shown here indicate graphically how the industry has been building the past three years—only one of which was part of what may be called the catalytic era.

Annual Building Rate, 390,000 Bbls.

U. S. Refining Capacity, 4,500,000 Bbls.



* * *

This year is not very old. But already three large catalytic cracking projects have been announced. In the Jan. 31 issue of NATIONAL PETROLEUM NEWS it was reported that Mid-Continent Petroleum Corp. has broken ground for a catalytic cracking unit to be built by M. W. Kellogg Co. Obviously this is not a Houdry unit since it is being built by Kellogg. It may be concluded from the announcement, therefore, that the group of companies which has been working to develop a catalytic process to compete with Houdry is now ready to license refiners to use the process—that the companies feel that their experimental development work is pretty well behind them.

When the preliminary development work on Houdry was completed it was followed by a tremendous building program on the part of Sun Oil Co. and Socony-Vacuum Oil Co. Inc. Last year saw more than 150,000 barrels of new capacity built employing the process. In view of the upheaval in the competitive marketing picture it may be fair to assume that any competing catalytic process may enjoy a similar building rush—particularly at plants of the developers of the process. Outsiders who have to pay royalties are more likely to stand on the sidelines and watch progress before making expensive commitments.

* * *

Last week's issue also carried announcement that Sun Oil Co. will complete a 10,000-barrel catalytic reforming unit by the end of March and a 20,000-barrel catalytic gas oil cracker by July. These two new projects will add 20,500 barrels of high octane gasoline supply to the current production of Sun based on a yield of 85 per cent gasoline by the reforming unit and 60 per cent yield of gasoline by gas oil cracking. The two new units will bring Sun and Socony investment in Houdry in the past eighteen months up to more than $40,000,000.

* * *

Grapevine rumors are that Sun has enjoyed a large increase in gallonage as a result of the advertising it has put behind its new gasoline. Reports have been heard of individual stations which have more than doubled their previous business. It is still too soon to reach any conclusion as to the extent of the switch in gallonage or how permanent it may be. Ohio tax figures for November reveal that Sun paid gasoline tax on 8 per cent of the gasoline sold in the state compared with 6.85 per cent of the state's business in the first eleven months and 6.82 per cent in 1938. Tax is paid on a shipment rather than a consumption basis in Ohio, however, so one month's figures mean nothing. In December, 1938, for example, Sun paid tax on 8.2 per cent of Ohio's total gallonage while in January, 1939, it paid tax on 6.4 per cent.

In eastern states advertising competition of Sun and Socony-Vacuum is being met by other companies and knock ratings of various fuels are becoming stabilized at around 75 octane number by the A.S.T.M. Motor Method. The next few months will show how much gallonage has been switched and whether it will stay switched. The tempo of refinery construction in 1940-45 may be set by gasoline tax reports of the next few months.

C.F.R. to Develop New Gasoline Road Test Method in 1940

By M. G. Van Voorhis
N.P.N. Staff Writer

THE major project of the Motor Fuels Division of the Co-operative Fuel Research committee for 1940 will be to bring the Road Test procedure for determining knocking characteristics of motor fuel up to date. The need for this revision became increasingly evident at the recent annual meeting of the Society of Automotive Engineers in Detroit. At no time has the lack of correlation of single anti-knock tests for all gasolines with actual road experience been more pronounced than at the present time.

This fact has become so evident that it is a growing conviction among members of the committee that it never will be possible to correlate a single laboratory test with road experience and that it will be necessary to approach the continuously changing average road conditions by employing two or three tests, experience showing how much weight to give each test for a given gasoline.

The Road Test method that is standard with the C.F.R. committee today is the same procedure that was used in 1934 at the Uniontown road tests. Unlike the Motor method, which is now an A.S.T.M. standard, and the Research method, the committee's Road Test procedure has remained unchanged since 1934, except as individual companies have modified it to suit their own ideas, conditions, or motor fuels. The Motor or A.S.T.M. method has been revised to some extent every year except one since 1933 when it was first formulated. The old Research method, which the Motor method superseded, has been carried along with the Motor method as a check method to be used for research purposes only. In 1939 the Motor method was changed in status from a Tentative to a Standard method of test and the old Research method issued in 1932 was revised for the first time to increase precision and facilitate changing the test equipment from the conditions employed in the Motor method.

This leaves the Road Test method the only one of the three recognized by the C.F.R. committee unrevised over a considerable period of time. During this period individual companies have modified the procedure to suit their own purposes with the result that the test data of scarcely any two companies is comparable. The L-3 method, a compromise between the A.S.T.M. and Research methods is considered only as a basis for agreement between the Ethyl Gasoline Corp. and its licencees.

The Motor Fuels Division of the C.F.R. committee organized a program of decentralized research on road knock testing which was carried out by individual organization and reported at a symposium session of the S.A.E. annual meeting in January. This symposium was one of the best attended sessions of the meeting. Reports during this session showed how illusory has become the frequently encountered idea that gasoline is becoming more and more a standard product with nearly identical characteristics.

Evidence of a trend toward a widening difference in the composition of gasolines was shown by laboratory knocking tests on various pure hydrocarbons and gasolines in which these pure hydrocarbons may be components. Results of these tests showed startling differences in anti-knock properties between hydrocarbons under the same test conditions. Furthermore, in some instances of changes of engine conditions, the changes in knocking of two hydrocarbons are directly opposite.

Tests such as these support the growing realization that motor fuels cannot be given a simple octane number that fixes their anti-knock quality under all engine conditions nor can gasoline engines be assigned a single figure for octane requirement. New refining processes are adding new hydrocarbons to gasoline or changing the proportions of those present in the average gasoline. Each of these component compounds may be considered to have its own anti-knock properties which averages in with other component properties to produce the anti-knock quality that is measured in a laboratory test engine or an automotive engine on the road.

In a motor car on the road detonation tendencies are affected by air-fuel ratios, spark settings, compression ratios, or pressures in the cylinders, carbon deposits, engine operating temperatures, speed, and possibly other factors. The problem is complicated further by the fact that these factors nearly always vary between cylinders.

AVERAGE road performance or knocking tendency of all motor vehicles on the road with the average motor fuel sold at service stations in the United States is known to a fair degree of accuracy by large oil companies. This knowledge is not only a result of road tests but comes through the sales department whose finger is on the pulse of public acceptance. Various organizations that conduct road tests have found that the standard road test procedure worked out at the Uniontown road tests in 1934 does not fit various individual requirements, i.e., correlate their particular product to average road performance, except by slight variations of the standard procedure.

The two laboratory octane tests referred to above may produce results which vary on a given gasoline anywhere up to ten octane numbers difference. The Research method generally rates a fuel higher in octane number than the Motor method. It is favored in instances where it appears to give a closer approach to average road rating than the Motor method.

With the development of a new standard road test method, the C.F.R. committee will then recognize three methods of test, which, as one authority stated it, will provide a "triangulation" means of arriving at the best representative octane number for any given fuel.

The job of the past year, as shown by papers presented at the annual S.A.E. meeting, indicate more exactly than has been shown in the past, how much variation in engine performance may be caused by various factors in fuel composition and engine adjustment. In articles on following pages are given significant portions of reports given at De-

troit on the effects of important variables in fuels and engines on detonation.

John M. Campbell, General Motors Research Laboratories, showed some of the differences between anti-knock tendencies of various hydrocarbons and motor fuels. W. E. Drinkard, Chrysler Corp., showed the differences in detonation between cylinders of the same engine for the same fuel and showed that these differences were not consistent between different fuels.

Clarence S. Bruce, National Bureau of Standards, showed that an engine increases its detonation tendency with mileage with the same spark setting and requires spark adjustment to maintain a constant octane number requirement.

A means of correlating the Research method of determining octane number to road octane number by using the laboratory method on the fuel having its heaviest fraction removed was described by A. E. Becker, Standard Oil Development Co. This method resulted from the observation that the higher boiling fractions tend to drop out of an air-fuel mixture in the average manifold.

Attempts made to reduce the variation in air-fuel ratios between individual cylinders and between cylinders and carburetor were described by Harold J. Gibson and Cleveland Walcutt, Ethyl Gasoline Corp.

Individual Fuel Properties To Be Guide in Engine Design

231.51

THE wide range in knocking characteristics that is found among fuels of high antiknock value indicates that technical information showing how to utilize the individual characteristics of each type of fuel to best advantage will play an increasingly important part in engine design and in motor fuel manufacture in the near future, John M. Campbell, General Motors Research Laboratories, predicted at the recent annual meeting of the Society of Automotive Engineers. He concluded that there is a need for a better way of expressing knocking characteristics so that provision can be made for them in engine design.

The accompanying chart, presented by Mr. Campbell, shows not only the wide variation in relative knocking tendency between different fuels under the same engine conditions but also the difference with respect to their varying relative response to changes in engine conditions and the change in permissible compression ratio with changes in engine conditions.

The most startling differences are noted in the pure hydrocarbons of high anti-knock value, particularly triptane and di-isobutylene, whose permissible compression ratios jump four or five units at 600 rpm. when the jacket temperature is reduced from 350 to 212° F. and the air temperature from 150 to 100° F. A similar jump is noted at 2000 rpm.

Changes of one or more compression ratios between 600 and 2000 rpm. may be expected when the ignition timing is adjusted for maximum power, it was pointed out. To the engine designer this is a matter of considerable significance in fixing the compression ratio and ignition advance curve, Campbell said. If the fuel is going to knock more at low speed, some compromise has to be made between compression ratio and ignition timing in order to get the highest compression ratio that is practicable without retarding the spark so much at low speeds as to produce excessive detonation. The problem is further complicated by the possibility of widely different types of fuel being used in the same engine.

As an example of these complications, iso-octane and di-isobutylene represent an extreme case. At low speed and low operating temperatures, di-isobutylene could be burned without knock at a compression ratio 3.8 units

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REFINING TECHNOLOGY

February 7, 1940

Revision of Road Test procedure in anti-knock tests is to be the major project of the Motor Fuels Division of the C.F.R. committee in 1940. Anti-knock properties of motor fuels to be approached by three tests as correlation of a single test with road experience appears more and more hopeless R-34

Technical data showing how to utilize the individual knocking characteristics of each type of motor fuel most advantageously will play an increasingly important part in engine design, says John M. Campbell R-35

Motor fuel octane requirement of automotive engines increases with mileage. Only partially due to carbon, according to Clarence S. Bruce R-36

Octane number by research method is correlated to road performance by omitting heaviest fraction of motor fuel in laboratory test, A. E. Becker shows R-38

Air-fuel mixture variation is reduced by heat and smaller manifold in attempts to improve detonation conditions, reports Harold J. Gibson R-39

Variables affecting detonation in both engine adjustment and motor fuels must be corrected together to make knowledge of knocking characteristics of practical value, W. E. Drinkard reports R-40

An interview with Dr. George Calingaert, head of the Chemical Research Department of Ethyl Gasoline Corp., who announced important applications of probability laws to industrial chemistry at the last annual meeting of the American Chemical Society R-42

Desalting units at Continental Oil Co. natural gasoline plants in southern Louisiana remove 99% of sodium chloride salt from crude oil containing 1000 grams per barrel and reduces B. S. & W. content down to 0.3%, by M. G. Van Voorhis R-44

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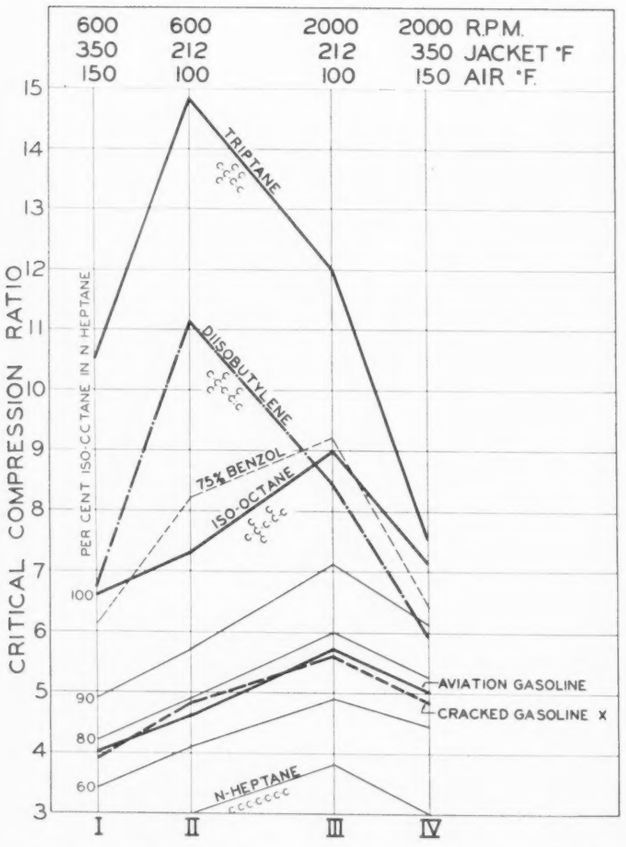


This chart shows not only the wide variation in relative knocking tendency between different fuels under the same engine conditions but also differences with respect to varying relative response to changes in engine conditions

above that of iso-octane. The actual difference in compression pressures is 317 psi (gauge) for di-isobutylene and 187 psi. for iso-octane. Further, iso-octane required the addition of 2.7 cc. of teraethyl lead per gallon to match di-isobutylene under these engine conditions.

At higher speed and temperature these two hydrocarbons reversed their previous relative order in antiknock value. Iso-octane was approximately one compression ratio above di-isobutylene. Over 6 cc. of lead per gallon would be required in the latter to match iso-octane under these engine conditions.

Of greater significance, however, from the standpoint of engine design, is the fact that the two hydrocarbons showed a completely opposite response to changes in engine speed. Di-isobutylene knocked more when the speed was increased, iso-octane knocked less. Obviously, Campbell said, in designing engines for high octane fuels these characteristics will have to be taken into account.

It is not enough merely to say that a fuel has an octane number of, say 100, for example. From what is seen here, there may be several kinds of 100-octane fuel and some will knock more and some will knock less than iso-octane under various engine conditions likely to be encountered in actual service.

The extreme case between current motor gasolines is much less pronounced than between the pure hydrocarbons. So-called sensitive and non-sensitive types are represented by Cracked Gasoline X and Aviation Gasoline respectively on the chart. Their differences represent an extreme case among current motor gasolines. By comparison with the differences found between iso-octane and di-isobutylene, a total difference of 0.4 unit in permissible compression ratio appears small. Nevertheless, Campbell pointed out, this difference, amounting to the equivalent of approximately eight octane numbers is of considerable commercial importance in rating the anti-knock performance of fuels in service tests.

Engine Adjustment Varies Knock

The growing realization that the relative knocking tendencies of different fuels vary with engine conditions was also referred to by J. B. Macauley, Jr., Chrysler Corp. He said the spread in motor fuel octane number requirement of cars of the same model has been so wide that the influence of such variables as spark setting, temperature accumulation, carbon accumulation, and engine conditions have been studied especially to analyze the causes for the wide range of values found. Macauley said a renewed attack on the carbon problem—mechanically, through the fuel and oil, and by improved maintenance methods, should be a means of permitting better utilization of octane number than now exists.

Changing Octane Rating Of Engines is Measured

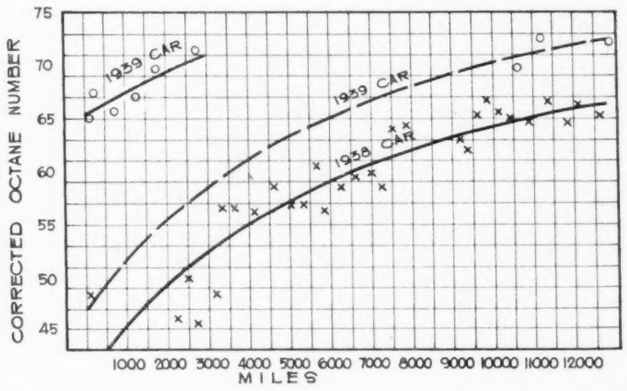
231.51

OCTANE number requirement of two automotive engines increased 25 octane units in 12,500 miles operation, automotive engineers were told at the Detroit S.A.E. meeting by Clarence S. Bruce, National Bureau of Standards engineer, who conductetd tests recently. A change of seven units, or less than one-third, could be traced to accumulation of carbon. The remaining change of 18 units was said to be "due to the effect of change in the condition of the engine," and was corrected by reducing the spark advance uniformly with mileage.

His test results showed that a constant octane number requirement of 65 could be maintained by adjusting the spark setting through 9 crankshaft degrees during the 12,500 miles operation at a uniform rate of about 1 degree per 1400 miles.

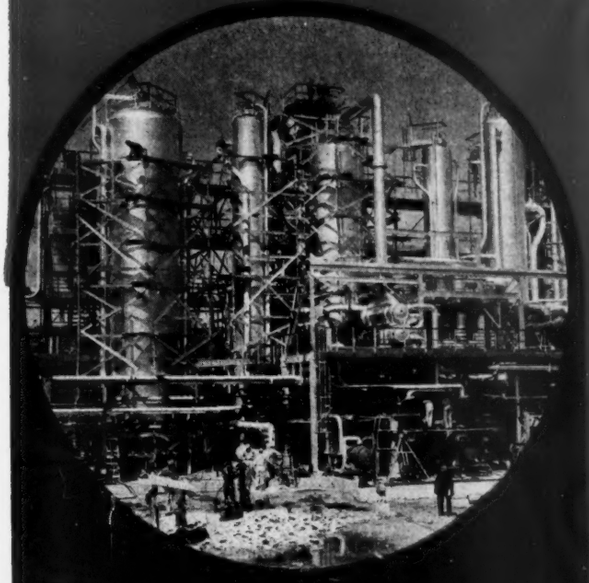
Bruce pointed out that it has been common knowledge that carbon deposit and change in engine condition affect the octane number requirement of engines but that few exact measurements of the magnitude of this effect had been made. His paper described a method to make these determinations. He used a neon spark indicator which consists of a spark-energized neon lamp illuminating a scale attached to the rim of the flywheel of the engine. Several spark indicators were used previously without much success, he said.

Corrections were applied for the effects of atmospheric temperature and dry-air pressure. The pressure correction was 3.1 octane units per inch of mercury. The temperature correction was 1 octane unit per 10° C. (18° F.).



The rise in octane number requirements of two motor cars is shown during 12,500 miles of operation. An additional 3000 miles is shown for the 1939 car after carbon removal lowered the octane number requirement from 72.5 to 66

The Successful Operation of Refineries Depends Upon Many Individual Factors—



The selection of the correct processes, and the design and physical characteristics of the processing equipment play equally important parts in assuring greater and longer operating success for any refinery.

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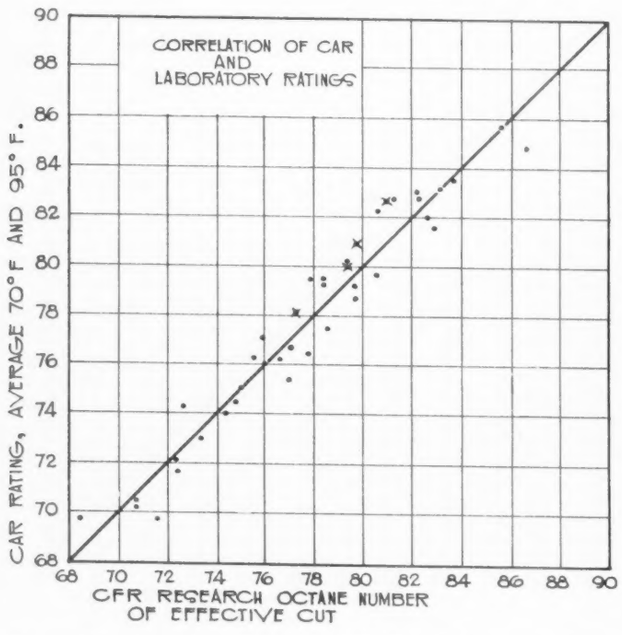
Engine Manifold Fractionation Key To Fuel Rating Correlation

ANOTHER step forward in the correlation of road and laboratory anti-knock ratings of motor fuels has resulted from the discovery that road octane number is equivalent to the C. F. R. Research rating of either the first 90 per cent of the fuel or the distillate to 300° F., whichever is the larger portion of the fuel. A. E. Becker, Standard Oil Development Co., discussed experimental work which showed this to be true from a joint paper by himself and G. H. B. Davis presented at the annual meeting of the Society of Automotive Engineers in Detroit, Jan. 15-19.

The question whether the distribution of octane number in the various fractions of a fuel, together with its volatility, may be an important factor in determining anti-knock performance of a fuel and in solving the more general problem of correlation of road and laboratory ratings, came up as the result of work by Bartholomew, Chalk, and Brewster of Ethyl Gasoline Corp. In a paper before the S. A. E. a year ago they showed that by using a bled manifold the higher boiling-point fractions of a fuel tend to drop out of the air-fuel mixture of the manifold walls as it passes to the various cylinders of an engine. Eventually these fractions are carried into some cylinders in much larger proportions than others causing a difference in mixture richness. Since different fractions of commercial fuels are different in octane number the cylinders receive mixtures of different octane number.

Furthermore, air-fuel mixture ratio was said to be of first importance in solving the correlation problem. At a certain critical ratio, it was pointed out, experiments have shown that "apparent" or "effective" octane number increases rapidly as the mixture ratio is either enriched or leaned from the critical point, regardless of mixture temperatures. Octane numbers are determined in the laboratory with the air-fuel ratio adjusted for maximum knock, the theory being that some one or more of the engine cylinders will receive such a "critical" mixture ratio at some stage in the cycle of operations of a car on the road. Hence the particular portions of the fuel that enter these "critical" cylinders are the ones that largely determine the rating that the fuel will have on the road.



Correlation of road rating and CFR Research octane rating has been brought about not only for four experimental fuels (crosses) but for many fuels of various types for the first time by interpreting road ratings in terms of the "effective cut"

The authors reasoned, as an example, that if a carburetor is delivering an over-all mixture ratio of 13 to 1 at the time knocking occurs and that the engine conditions are such that the ratio for maximum knock is 14.5 to 1, then the "critical" cylinders will be those that are receiving fuel in the ratio between 13 and 14.5, that is about 90 per cent of the fuel that is being delivered by the carburetor. Since the heavy ends are the ones that drop out of the air-fuel stream in its passage through the manifold, it follows that the 90 per cent of the fuel reaching the "critical" cylinders must be deficient in these heavy ends. Therefore, if the fuel is of sufficiently low end point or the manifold design is such that the fuel is always more than 90 per cent evaporated, it will be the octane number of such larger percentage of the fuel that will determine its road rating in the particular car under consideration. On the other hand, if less than 90 per cent of the fuel is vaporized under the conditions assumed, the leanest cylinders will not be receiving the air-fuel ratio required for maximum knock and will therefore act as though they are receiving a fuel of higher octane number.

To test these conclusions, four experimental fuels were prepared from various types of gasoline in such manner that all had the same volatility characteristics and octane numbers as nearly the same as practicable. They differed from each other in the distribution of the anti-knock quality throughout the boiling range. Inspection data and octane numbers are shown in the accompanying table. High octane number fractions were used for the intermediate portions of fuels 1 and 4, whereas the last 10 per cent was in each case of low octane number. The two differed from each other in that fuel 1 was of low sensitivity. Fuel 3 contained intermediate fractions of low octane number, whereas the first 35 per cent was the same as that for fuel 1 and the last 30 per cent was of high octane number. Fuel 2 was prepared from fractions of as nearly the same octane number as possible. Thus fuel 2 should be insensitive to such effects inasmuch as the octane numbers change rapidly from 70 per cent to 100 per cent.

Engine tests with these and other fuels were conducted in four popular cars with an automatic cycle of acceleration to 50 mph. deceleration to and idling at 10 mph. Tests were run at 70° and 95° F.

Since there was poor correlation between car and laboratory ratings with either ASTM or C. F. R. Research ratings of the fuels as a whole, it was decided to test conclusions by determining the octane number of various overhead cuts in the manifold by duplicating as near as possible the manifold fractionation. This was done in a cast iron pot still of about one gallon capacity and insulated tower without packing.

By preparing ASTM and CFR Research curves from

the resulting octane numbers of the 80 per cent and 88 per cent cuts and the entire fuel, it was possible to interpolate ratings for cuts to any desired distillation temperature. By trial it appeared that best correlation was obtained by using the CFR Research method for 90 per cent cuts except for fuels of low end point.

By trial it was found that the "effective cut" for the fuels and the conditions of test used may be defined as "the first 90 per cent of the fuel or the distillate to 300° F. whichever is the larger portion of the fuel." This cut temperature checks the distribution results obtained by Blackwood, Kass, and Lewis of Standard Oil Development Co. and reported at the annual meeting of the S. A. E. a year ago. Their data shows almost no difference in spread between the over-all air-fuel ratio and that of the leanest cylinder for all fuels tested, including gaseous butane, that had end points below 300° F. Becker and Davis noted further that for the higher boiling fuels, the use of the 90 per cent distillate closely approximates the anti-knock characteristics that would be obtained if the portion of the fuel boiling below 300° F. were mixed with enough of the heavy ends to equal 90 per cent of the original.

The effect of the distribution in the manifold of an engine was also shown in the reference fuels and it was noted "that for the first time the reference fuels themselves are brought into agreement with fuels of various types."

Inspection Data of Test Fuels Differing Only in Octane Number Distribution Throughout the Boiling Range

Fuel	1	2	3	4
ASTM Octane Number	71.4	72.4	74.5	72.8
CFR Research Octane Number	77.5	77.9	80.5	72.2
API Gravity	54.5	57.9	57.0	68.6
Reid Vapor Pressure, lbs.	7.8	7.3	8.0	8.9
Cu. Dish Gum, mgs.	14.5	10.4	13.9	5.8
ASTM Gum, mgs.	3.8	3.6	6.4	1.2
Sulphur, %	0.030	0.031	0.032	0.027
Acid Heat, °F.	47	38	48	11
Aniline Point, °F.	77	90	90	158
Distillation				
I.B.P. °F.				
% @ 158° F.	12.5	12.5	14.5	15.0
% @ 212° F.	34.5	34.0	35.5	35.0
% @ 257° F.	56.5	56.5	57.0	59.0
% @ 356° F.	93.5	92.5	93.0	91.5
90% @ °F.	342	342	347	351
F.B.P. °F.	387	388	393	387
ASTM Octane Number of Cuts				
0— 35%	75.2	69.8	75.2	74.7
35— 55%	80.2	69.9	59.8	85.5
55— 70%	90.7	71.0	48.3	84.8
70— 90%	60.1	70.8	81.1	61.7
90—100%	24.6	70.0	89.5	24.5

Reduced Air-Fuel Ratio Variation No Help in Knock Improvement

815

ATTEMPTS by two methods to reduce variation in air-fuel ratios between the cylinders of an automotive engine with the ultimate aim of improving engine performance and correlating road and laboratory octane tests met with indifferent success, it was reported to the S. A. E. symposium in a paper by Harold J. Gibson and Cleveland Walcutt, Ethyl Gasoline Corp.

Fuel mixture heating was one of the methods used since it was observed in earlier work that a highly volatile fuel caused less variation in air-fuel ratio from cylinder to cylinder than a fuel of low volatility. Hence, it appeared that anything which improved the vaporization of the fuel would reduce this variation. However, while it had no effect on low speed acceleration ability, this practice substantially reduced car performance at high speed.

The second method was to employ an intake manifold of one-third the cross-sectional area of the standard manifold. The smaller manifold gave substantially three times the mixture velocity of the standard manifold and reduced the lag of unvaporized heavy ends in the manifold. In spite of the fact that this change gave the same fuel-air mixtures in all cylinders at the speed of maximum knock and average cylinder fuel-air mixtures closely approaching the carburetor mixtures, the knocking tendency of all fuels was increased. It also improved low speed acceleration but reduced high speed acceleration.

So far no explanation has been found for the increased knocking tendency, it was brought out. Intensive study is being made of the effect of the small manifold on relative fuel performance and it is hoped that more information may be available at a later date.

As an example of the performance with the smaller manifold the relative knocking tendencies of two fuels, CFR fuel Nos. 5 and 6, differing in having their anti-knock value concentrated respectively in the lighter and heavier fractions, approached their relative performance in the conventional laboratory knock testing machine.

The spark advance required for maximum performance, i.e. minimum time for acceleration from 10 to 30 miles per hour at wide open throttle, was the same for both manifolds although the peak in the performance versus spark advance curve was much more pronounced with the small than with the large manifold.

Gibson and Walcutt's work was a continuation of that reported a year ago at the annual meeting of the S. A. E. by Bartholomew, Chalk, and Brewster of the same company. The earlier authors showed that during full-throttle operation at low speed there are large variations in the air-fuel ratios of the individual cylinders of an engine. It was suspected at that time that during acceleration at low speed the average cylinder fuel-air ratios may deviate widely from those at the carburetor.

Further work was, therefore, directed toward accurate determinations of both of these differences and the effects of mixture heating and smaller intake manifolding on air-fuel variations.

Mixture heating was found to reduce the spread be-

All sessions at the annual S.A.E. meeting were well attended. More than 1000 were registered for the meeting

tween individual cylinder air-fuel ratios under accelerating conditions and to cause all individual cylinder air-fuel ratios to become richer at low speeds. It also caused fuel-air mixtures in the cylinder to increase in richness at a slower rate than without heating. Car performance was reduced at high speed and acceleration ability not improved at low speed.

Motor Car Octane Requirements Slightly Higher in 1939

231.51

GENERAL results of the fourth annual Co-operative Fuel Research committee's Motor Survey for 1939, presented by Donald B. Brooks, National Bureau of Standards, show 1939 cars have a slightly higher octane number requirement than 1938 cars. About 20% of the 1939 cars required a maximum of 66 octane number, the next 20% required up to 71 octane number, the next 20% up to 74, the fourth 20% up to 79, the next 10% up to 81, and the remaining 10% carried requiremens up to 87 octane number. These average about two units above the average of the four cars used in the 1938 survey.

In the 1939 survey 26 cars were used representing 15 makes of 1937, 1938, and 1939 cars. Many cars require a higher octane rating because of improper adjustment of the spark advance mechanism, it was found. In two-thirds of the cars a readjustment reduced the fuel requirement by about the difference between premium and regular grade gasoline, Brooks reported.

Results on the tests to determine the limiting vapor pressures showed lower limits than in 1938 tests. While there has been little change in the average value, the range of limiting vapor pressures was much smaller in the 1939 tests. As last year's results indicated, there was little if any real variation between the different units of each model, this decrease of range indicates a marked reduction in the error of testing, according to Brooks.

Better Engines and Fuels Needed Simultaneously

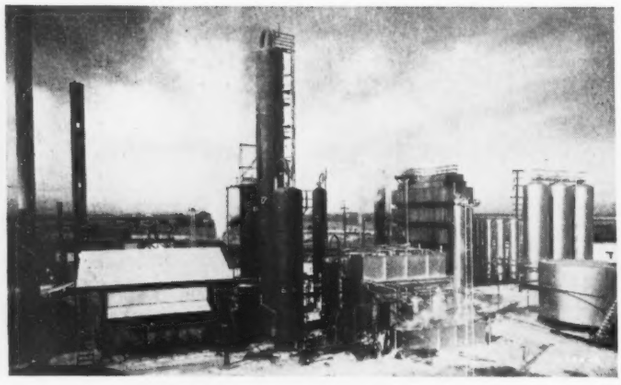
231.51

SINCE both engine and fuel variables are seen to introduce factors ultimately affecting the road octane number of a fuel, W. E. Drinkard, Chrysler Corp., concluded after presenting a brief study of the influence of mixture distribution on individual cylinder knocking characteristics, that the elimination of either fuel or engine variables alone will probably not be sufficient for material improvement in existing conditions of indefiniteness in rating knocking tendencies. Either set of variables, allowed to exist, are of sufficient importance to hinder reaching the desired goal of avoiding detonation in more exact adjustment or design of engines to maximum engine efficiency.

Drinkard's results were shown in terms of spark advance for incipient knock for each cylinder of a six-cylinder engine at four different overall air-fuel ratios. The differences found between the detonation tendency of the various cylinders when each is operated at maximum knock mixture ratio, were found to be due to engine mechanical differences, operating differences such as temperatures and pressures, and to differences in fuel quality distribution.

This variable distribution differed with different fuels, the different cylinders apparently rating them in different order as regards anti-knock value. This fact might be responsible, to some extent, it was believed, for the variations found in road octane number of a given fuel when determined in different cars of the same make. If there exists in an engine a mechanical difference between cylinders, such as a distributor that produces variations in ignition timing, this one factor plays an important role in the determination of the cylinder that will detonate most readily. That particular cylinder then will no doubt influence the ultimate rating of a fuel considerably. In addition the fuel variable magnifies this error, Drinkard said.

New 1000-Barrel Cracker Completed at Long Beach



Pathfinder Petroleum Co. refinery at Long Beach showing the main fractionating equipment and Alcorn furnace. In the background is the rundown tank and cooling tower

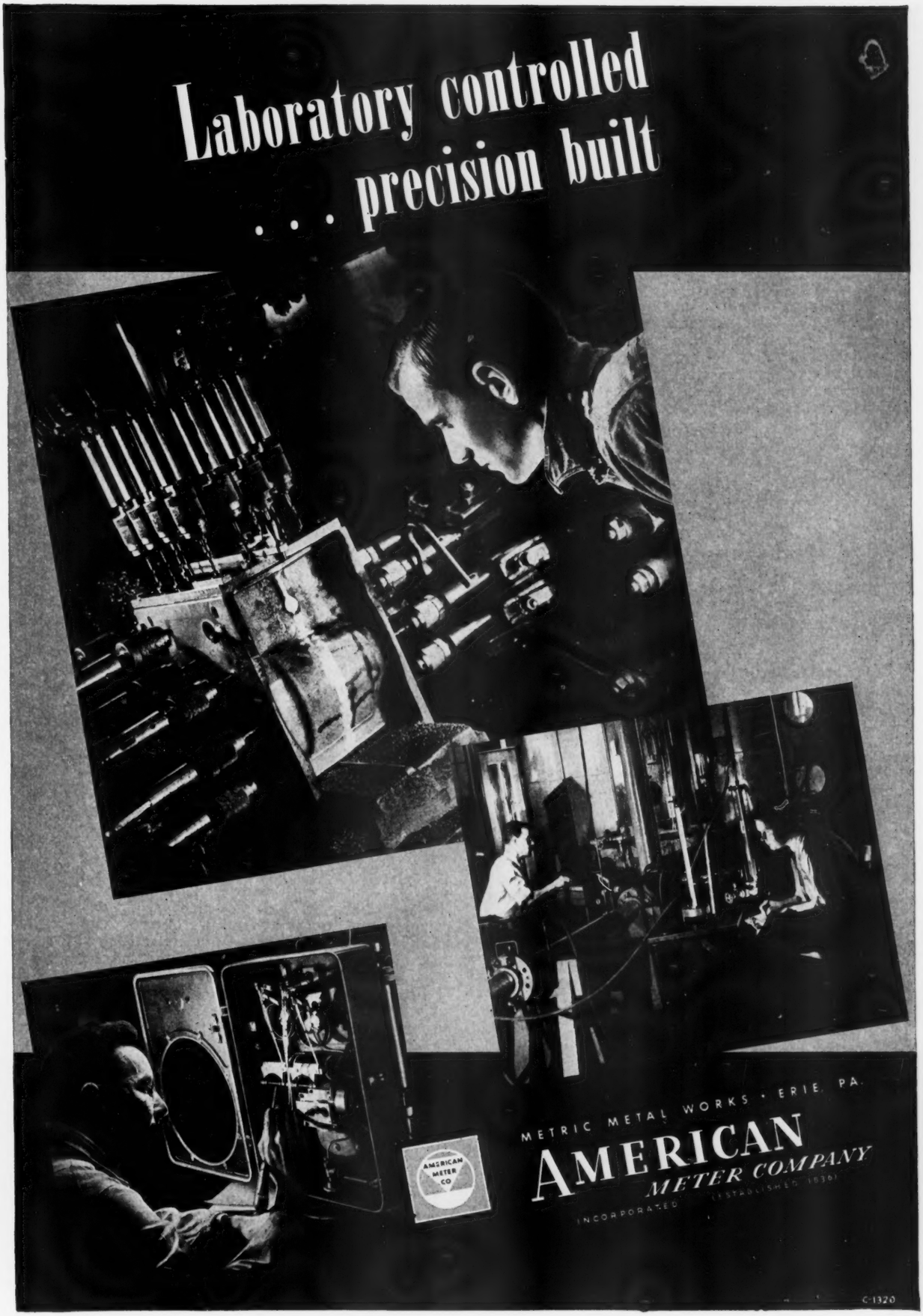
Pathfinder Petroleum Co. recently completed a $250,000 cracking plant at Long Beach, Cal. It is a single stage unit with provisions for enlargement. A polymerization unit will be installed soon, according to B. E. Devere, executive manager and treasurer, adding $50,000 to the cost of the plant.

The plant is running 1000 barrels of 32 gravity virgin gas oil per day, half from the topping unit of the adjacent El Camino Refining Co. refinery and the other half purchased on the open market. Gasoline yield averages 59% or 591 barrels on a typical day. Other products are furnace distillate 7.8% and fuel oil 27%. Loss is approximately 6%.

Pathfinder's storage facilities include tanks for 20,000 barrels of charge stock, 10,000 barrels of fuel, 7500 barrels of gasoline, and miscellaneous storage for other products. The plant is served by rail, truck, and pipeline facilities, the latter being connected to Long Beach, Santa Fe Springs, and Huntington Beach oil fields.

Three grades of gasoline are marketed through independent dealers in southern California.

Officials of the company associated with Devere are Herbert A. Meek and J. Vernon Pohl. Meek is president of both the Henry H. Cross Co. of Cal. and of El Camino Refining Co. Pohl is vice president of El Camino. E. G. Whitehead is secretary.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An Interview . . .

With a Research Chemist Who is a Key Man In the Development of Anti-Knock Compounds

By M. G. Van Voorhis

N.P.N. Staff Writer

THE place of honor on this week's front cover goes to a man who at the last annual meeting of the American Chemical Society announced a chemical reaction which he described as "a hitherto unrecognized type of intermolecular exchange of organic radicals." The new reaction is predictable by the laws of chance or probability and "all but shakes the foundations of our general concepts of the behavior of the atoms in molecules," he says.

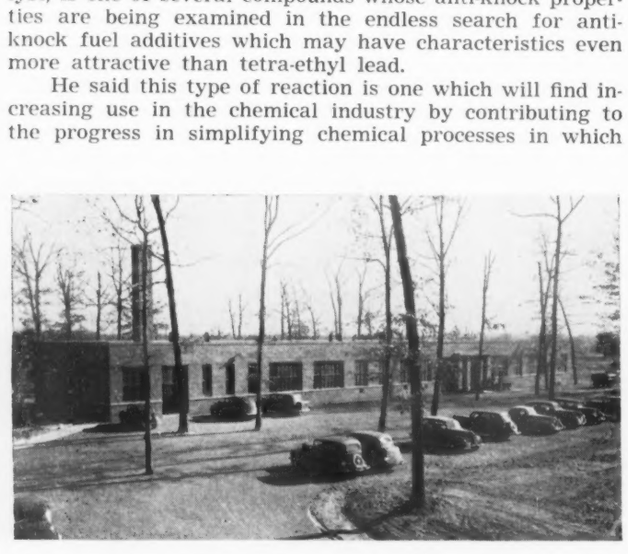
That man is Dr. George Calingaert, Director of Chemical Research, Ethyl Gasoline Corp., a native of Belgium who, since receiving the degree of Doctor of Science at the University of Brussels in 1921, spent five years at the Massachusetts Institute of Technology before becoming associated with Ethyl Gasoline Corp. in 1926.

The staff of this department which he now heads is four times as large as in 1932 when it was moved to Detroit from Yonkers, N. Y. The latest move of the Chemical Research department was from its cramped quarters within the city to a laboratory of its own on Eight Mile Road on the outskirts of Detroit.

In spite of the interruption of the war immediately following his graduation from high school in 1914 and his service in the Belgian army throughout the war, Dr. Calingaert managed to get his doctor's degree seven years later. During his war service he rose in rank from private to first sergeant-major. In 1916 he received wounds which kept him out of service for three months.

While discussing the "Redistribution Reaction" with Dr. Calingaert in his new office recently he said dimethyldiethyl lead, one of the products formed in such a "Redistribution Reaction" when tetraethyl lead and tetramethyl lead are mixed together in the presence of a catalyst, is one of several compounds whose anti-knock properties are being examined in the endless search for anti-knock fuel additives which may have characteristics even more attractive than tetra-ethyl lead.

He said this type of reaction is one which will find increasing use in the chemical industry by contributing to the progress in simplifying chemical processes in which catalysts may play a part. He pointed out that often in order to obtain a reaction between "similar compounds" it has been necessary in the past to produce first a highly reactive, dissimilar intermediate compound from one of the prospective reactants. The additional expense involved could be eliminated in many cases by employing a direct redistribution reaction.



The new laboratories of the Department of Chemical Research of Ethyl Gasoline Corp. are located in this building at the city limits of Detroit

In his new laboratory, Dr. Calingaert said he expects to continue his work in about the same fashion that it has proceeded in the past except without the handicap of space limitation experienced in the old location. No expansion in activities nor of the staff are contemplated for the time being, he added. The department will continue in close co-operation with other departments of the corporation in conducting experimental research and in assisting them to handle their various problems which call for consideration from the chemical viewpoint.

On its own initiative, under Dr. Calingaert's direction, the chemical laboratory undertakes research such as a detailed study of the manufacture and properties of alkyl lead compounds; investigation of other anti-knock compounds, both genuine and purported; synthesis of pure hydrocarbons, determination of their physical properties, study of the chemistry of their combustion and numerous other activities in related fields.

Dr. Calingaert's attitude toward his finding this adaptation of the laws of chance to chemical reactions, as well as toward his move to larger quarters, was that they were merely natural course of events. He gave the impression that the observations made on the reactions of the compounds which the laboratory has studied could not have escaped notice of any trained chemist who would be called upon to work with these particular compounds. The new laboratory he considers just a little more efficient tool to work with than the old facilities.

Dr. Calingaert has not spent all of his time since completing his university training on anti-knock compounds but one of his first projects while a member of the research staff at M. I. T. was on methods of making tetraethyl lead. This was six months after the announcement of the discovery of this compound's value in gasoline.

The evidence for his interest and work in other lines of chemical research is shown by his frequent contributions to chemical literature. These have appeared largely in two publications of the American Chemical Society; its Journal and Industrial and Engineering Chemistry. His first published article, however, was in the Bull. soc. chim. Belg. in 1922, and dealt with "A Homolog of Ethylene Sulfide." By 1926 he had published 12 articles covering a variety of subjects including studies of lime and magnesia, efficiency of fractionating columns, stress-strain properties of nitrocellulose-camphor, and organic compounds of lead. He took out a patent on lead alkyl compounds in 1925.

During his first three years with Ethyl Gasoline Corp. his writings appeared less frequently. One article was published on the application of the phase rule and he took out a second patent, this time on tetraethyl lead. Then in 1929 came "The Isomeric Heptanes," "Analytical Reactions of Tetraethyl Lead," in 1930 "Determination of Sulfur in Gasoline," and in 1931, this time in Chimie et industries,

"A Practical Method for Determining Vapor-Tension Diagrams."

In 1934, he published five articles: "Small-Plant-Scale Liquid-Phase Hydrogenation under High Pressure," "Vapor-Liquid Equilibrium of Hydrocarbon Mixtures," "Hexamethylethane," "Tests for the Accuracy of Vapor Liquid Equilibrium Data," and the "Constant-Temperature High-Pressure Laboratory Autoclave."

"The Isomerization of Normal Heptane" was treated in two articles in 1935 and 1936 followed by a "Critical Analysis of the Physical Properties of Homologs and Isomers" and "Methylnonanes." He had two articles in the S. A. E. Journal during these two years: one on "Electrolytic Cleaning of Exhaust Valves" and the other on "Sapphire and Other New Combustion-Chamber Window Materials."

His most recent articles are on "Alkyllead" (Journal of Organic Chemistry, 2, 535-9, 1938), "Determination of Tetraethyl-lead in Gasoline" (Ind. Eng. Chem., Anal. Ed., June 15, 1939), and finally, in last October's Journal of the A. C. S., the previously mentioned "Redistribution Reaction." An account of this reaction was published also in Science, Nov. 10, 1939.

The reaction has been described in terms understandable to the lay reader in at least two industrial bulletins under such heads as "Like a 'Chemical Dice Game'" and "Change Partners." Said to upset the premise that like compounds will not react, it has been shown that the redistribution reaction can be brought about by a suitable catalyst. The Ethyl corporation chemists are, of course, most interested in tetra-ethyl lead and related compounds and it is fitting that the reaction be discussed in connection with these compounds although it has been shown to apply to other chemical compounds, particularly in the mechanism of liquor aging.

In the case of tetraethyl lead and tetramethyl lead which are normally inert in the presence of each other, the addition of a catalyst such as aluminum chloride starts a random rearrangement of ethyl and methyl groups, the law of probability fixing the proportions of each group of compounds formed. In this instance there are three additional compounds formed: trimethylethyl lead, dimethyldiethyl lead, and methyltriethyl lead, without entirely using up the original two compounds.

Assuming the original two compounds are combined in equal quantities, the proportions in the "random equilibrium mixture" will be one-sixteenth each of the original compounds, six times as much or three-eighths will be dimethyldiethyl lead, and eight times as much or one-half of the mixture will be divided equally between the other two new compounds. When other proportions of the two original compounds are combined, other fixed proportions in the "random equilibrium mixture" will result, never varying in repeated experiments.

"Considering what we know of the instability of free radicals and their tendency to react with molecules or to rearrange yielding saturated and unsaturated hydrocarbons," Dr. Calingaert states in his most recent article on the subject, "it is remarkable to observe here a complete random mobility, without any loss of these groups through side reactions. This observed random distribution signifies that the bond strengths of the linkages involved are independent of the nature of the other linkages in the same molecule, that is, that the strength of the MePb bond, for instance, is the same whether the other three linkages of the Pb are to methyl or to ethyl. This unexpected conclusion is expected to attract the attention of chemists who spend considerable effort in attempting to determine bond strengths in atomic linkages. The systematic use of the redistribution reaction will be of considerable help in solving this key problem of molecular chemistry," Dr. Calingaert concluded.

These reactions are in striking contrast to the more common type, which usually takes place only between chemically different compounds with the evolution or absorption of large quantities of heat, he said. In the redistribution reaction described above there is no indication of chemical reactivity, no change in appearance, no evolution of gas or precipitation of solids, and no evolution of heat.

Further work along these lines may be expected to be proceeding in the hands of 35 staff members at the new chemical research laboratory. Here on an 8-acre plot, in a single-story functional building of brick and concrete, 250 feet long and 50 feet wide, the chemical research of Ethyl Gasoline Corp. has been housed since the first of December. Efficiency and convenience of operation has been emphasized in the layout and equipment.

At the south end (background) are sound-proof and air-conditioned offices, library, lunch room and at the north end (foreground) are grouped the laboratories and service rooms. The driveway and main entrance are on the west side. In this space, in the event the engineering and aeronautical research laboratories are moved later to this location, will be constructed an additional laboratory unit so that eventually the chemical laboratory will form the east wing of an E-shaped building.

Two Standard of California Executives Win Promotions

A. S. Russell and J. L. Hanna won promotions in the executive staff of Standard Oil Co. of California, Jan. 1, 1940. Mr. Russell, member of the Board of Directors, became vice-president of the company. Mr. Hanna, general manager of the Manufacturing department, was elected to the Board of Directors.

Mr. Russell began his employment with the company with the construction of the El Segundo refinery in 1911, where he served as an engineer, subsequently being employed in the same capacity at the Seguro refinery at Bakersfield and at the Richmond refinery. In July 1918 he became chief engineer of the Manufacturing department, with headquarters at Richmond. Eight years later, in June 1926, he became vice-chairman of the Manufacturing committee and in June 1927, still serving in that capacity, he was appointed manager of the El Segundo refinery. Mr. Russell remained at El Segundo until he was elected to the Board Jan. 1, 1931.

Mr. Hanna began his company service as a still foreman Jan. 1, 1909. With the construction of the El Segundo refinery in 1911 he was transferred to this plant as a boiler maker. In 1914 he went to the Seguro refinery at Bakersfield as foreman, subsequently becoming superintendent. He remained at this location until January 1928 when he was made chairman of the Standardization committee, with headquarters at the Richmond refinery. Four months later Mr. Hanna was appointed vice-chairman of the Manufacturing committee. In October 1929 he was made chairman of this committee, with headquarters in San Francisco. He started in his present position as general manager of the Manufacturing department in 1933.

A. S. Russell

J. L. Hanna

Continental Desalting Plant Strips 99% NaCl from Louisiana Crude

By M. G. Van Voorhis
N. P. N. Staff Writer

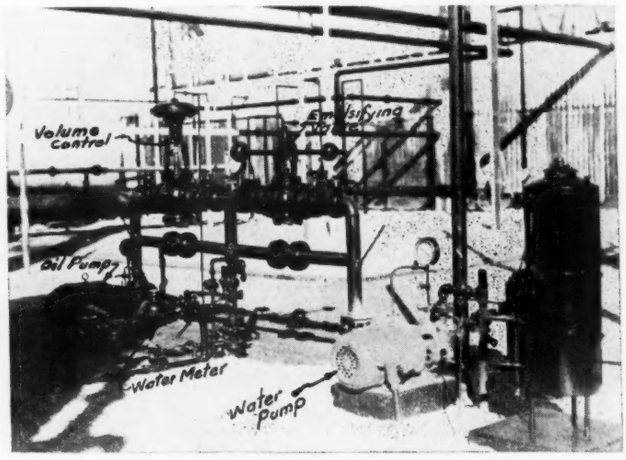
ABSTRACT

Crude oil containing 1000 grams of sodium chloride per barrel is desalted to only 10 grams per barrel at two southern Louisiana plants of Continental Oil Co. Petreco desalting units remove 11,000 barrels of salt daily. One of the most important results is elimination of 30 to 40-day plant shutdowns for washing out crude lines and vessels.

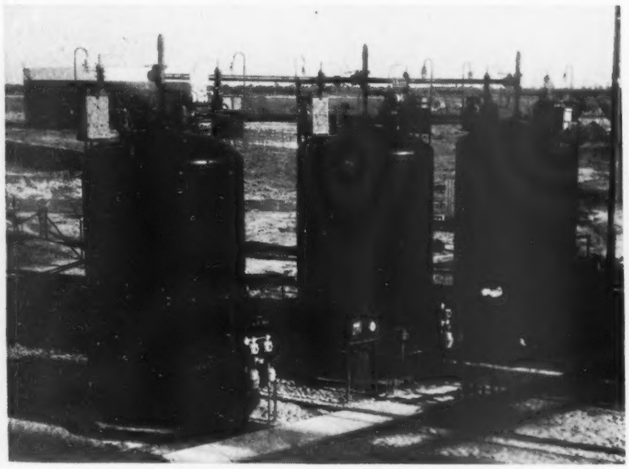
APPROXIMATELY 1000 grams of sodium chloride salt per barrel of crude oil are being reduced to a maximum of 10 grams per barrel by electrical and chemical desalting employed in the gasoline plants of Continental Oil Co. at Basile and Villa Platte, La. The separation reduces the B.S.&W. content of the crude down to 0.3 per cent.

With a throughput at the Basile plant of 5000 barrels per day, something like 11,000 pounds or 5.5 tons of salt are removed and disposed of with added water and sediment. While the main object of the desalting process is salt removal, since salt makes up the major portion of the separated material, there is also a small amount of connate water removed and some suspended matter.

One of the most important results of the installation of this desalting unit is the elimination of the regular 30 to 40-day shutdowns for washing out crude lines and vessels. Since the installation of the desalting unit Jan. 1, 1938, there has been no interruption of plant operation for opening plugged lines. Corrosion has been considerably reduced.



Operating and control equipment used with the Petreco desalting units at Basile, La.



These Petreco desalting units remove 11,000-pounds of salt daily from 5000 barrels of Louisiana crude

The desalting units were installed mainly to facilitate the company's refinery in Baltimore but their installation at the gasoline plants in Louisiana protects these plants also and helps crude sales to other refiners who buy from Continental on the open market. The Ville Platte units have a capacity for 10,000 barrels of crude oil daily and have been operating only since May 1, 1939.

Crude oil is pumped to the desalters after being heated to 160° F. by passing in heat exchange relation with steam. The charge pump is a motor-driven single-stage centrifugal having low head and high-speed characteristics. This pump, driven by a 10-hp. motor maintains a pressure of 75 to 80 psi. on the emulsifying manifold. Emulsification requires a pressure drop of 35 psi. The remaining 45 psi. on the desalters is required to keep volatile fractions of the crude in the liquid phase.

Before entering the desalters 16 per cent by volume of water is added to the crude stream by means of a centrifugal pump driven by a 5-hp. motor. The water and oil pass together through an emulsifying valve which produces a thorough mixture of water and oil. This is an ordinary weight loaded back pressure valve and it produces a 12 per cent emulsion on shake-out, the emulsion remains fixed until broken by the 30,000 to 40,000 volt electric field in the desalters.

At the Basile plant, the desalters are standard units

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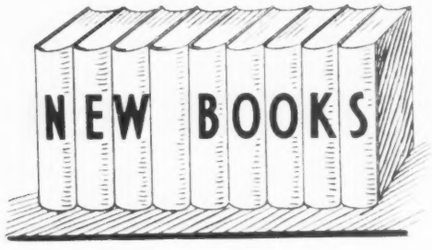
manufactured by Petroleum Rectifying Co. The plant consists of three electrical desalting units with electrodes encased in vessels about ten feet in diameter and 12 feet high. They occupy a ground space about 40 by 20 feet. These units come equipped with transformers, level control, oil and water charge pumps. Each of the three units at the Basile plant handles 2500 barrels of crude per day.

After the salt water has been electrically and chemically separated, the desalted crude oil flows under desalter pressure to storage tanks and the salt water passes to a concrete reservoir 60 by 80 feet long and 10 feet deep. From here it is picked up by a reciprocating steam pump which builds up a pressure of 500 psi. and is forced into a salt water input well. At the Basile plant this is a dry hole which was plugged to hold gas pressure at a level where the water could be pumped into the sand. At the Ville Platte plant a well was drilled especially for the disposal of salt water. No additional men have been required in operating the desalting units and practically no maintenance in the year and a half of operation, according to a Continental engineer. The cost of operation is largely in the 50 kilowatts of power required for operating motors and producing the high potential emulsion-breaking electric field.

Among the factors which have made the electrical desalting method practical are the facts that water, heat and power were already available and no additions to power producing equipment were necessary. The crude oil is also of a type which yields readily to this method of desalting.



The Cracking Art in 1938

The annual report on advances in cracking technology by Universal Oil Products Co. has just been published in a 458-page book under the title of "The Cracking Art in 1938". The book presents in probably as small space as the material can be condensed a systematic summarization of published articles and issued patents during the year. There are over 600 references to published articles in the 190 pages devoted to the discussion of cracking development and approximately 550 U. S. and foreign patents are abstracted in an orderly arrangement of subjects.

The summarization of articles opens with statistics on construction of cracking units proposed or completed during the year both in the U. S. and abroad. This is followed by a chapter dealing with cracking research arranged under three heads: catalytic, pyrolytic, and electrical; commercial cracking; cracking plant equipment, materials, and corrosion; treating methods; products and by-products; and high-octane fuel by polymerization and alkylation.

Patents are arranged under 12 main heads: preparation of cracking stock, non-catalytic cracking, catalytic cracking, cracking with oxidation, electrical cracking, gasification, motor fuel from gases, dehydrogenation of paraffin gases, alkylation, cyclization and aromatization, treating, and by-products.

It is brought out in the introduction that the "twelve months of 1938 brought more important achievements in the cracking art than perhaps any preceding 12-month period in the history of the industry". Included in these achievements are the development of catalytic cracking, of midget catalytic polymerization units, of iso-octane units which operate almost a year without change of catalyst, of catalytic alkylation to the pilot plant stage, of production of synthetic glycerin by chlorination and hydrolysis of propylene from cracked gases at a price level competitive with glycerin from saponification of fats, and of hydraulic decoking of cracking still reaction chambers.

The authors point out that "despite the appearance of catalytic cracking, thermal cracking is increasing in volume . . . and it appears that catalytic cracking, at least for some time to come, will be a useful adjunct to thermal cracking by increasing octane rating." Present indications are said to be that catalytic cracking will be conducted "on a once-through basis to yield about 40% of gasoline, and the residue will be thermally cracked to produce more gasoline."

"Of the thermal processes only those that operate in liquid-vapor phase gave evidence in 1938 of growth and vigor", it is pointed out. The combination unit and selective cracking became well established for reasons of economy and efficiency.

In the field of cracking equipment alloys some of the more promising new alloys were listed. These include 2.5-4.5 Cr.-Mo-V which "appears to have better strength than the corresponding Cr-Mo steel", 3-5 Cr-Mo-Si-Al which "exhibits better corrosion and oxidation resistance than regular 5 Cr-Mo steel", "5 Cr-0.5 Mo-Cb, a non-hardening steel with improved impact strength under all conditions of testing", 16 Cr-13 Ni-3 Mo-Cb which "has enhanced welding properties", and "18 Cr-8 Ni-Cb for welding without danger of carbide precipitation".

Volumetric and Phase Behavior Of Hydrocarbons Described

The first relatively complete description of liquid-gas phase behavior in English has been prepared by Bruce H. Sage and William N. Lacey, California Institute of Technology and published in a 300-page book by the Stanford University Press. Title of the book is "Volumetric and Phase Behavior of Hydrocarbons."

Its purpose is to present fundamental principles and some of the facts relating to that type of hydrocarbon behavior which does not involve chemical reactions or changes in the molecular species present, the authors state.

The quantitative application of scientific principles in petroleum technology has been retarded by a scarcity of determinations of necessary constants which has made prediction of the behavior of hydrocarbons too uncertain to develop confidence in the utility of the principles, the authors point out. Recent development of a broader quantitative background of experimental knowledge is brought together to aid in utilization of experimental facts as they become available.

The subject is developed without assuming that the reader has made intensive studies of physical chemistry and most of the fundamental principles discussed are found in treatises on physics and physical chemistry or in the journal literature. However, such discussions are not directed particularly to the problems of the petroleum technologist.

Although the purpose of the book is to present a qualitative discussion of behavior, much quantitative information has been incorporated in the figures, a large portion of which are quantitative in nature rather than illustrative sketches. The emphasis on volumetric behavior is greater than in previous books on phase equilibrium. The intelligent control of petroleum refining operations depends upon a thorough knowledge of the principles discussed in the book, the authors state.

The American Petroleum Institute assisted in the gathering of material presented in the book in that it is a product of the institute's Research Project 37. Copies of the new volume are available at $5 from Stanford University Press, Stanford University, Calif.

New Patents

Compiled by R. E. Burnham, patent and trade-mark attorney, 511 Eleventh Street, NW, Washington, D. C., from whom copies may be obtained at rate of 25c each. State number of patent and name of inventor when ordering.

December 26, 1939

Distillation of mixtures of high boiling point liquids—Otto Brucke, Germany, assignor to American Lurgi Corp. Filed June 2, 1937. No. 2,184,579.

Process of treating gases—A. J. L. Hutchinson, Palo Alto, Cal., assignor to Fluor Corp., Ltd. Filed Apr. 14, 1937. No. 2,184,596.

Method of treating oils—D. L. Hooker, Woodbury, N. J., and C. M. Fabian, Beaumont, Tex., assignors to Socony-Vacuum Oil Co. Filed Apr. 30, 1937. No. 2,184,838.

Process for vapor phase hydrogenation of olefin polymers—J. D. Ruys and E. D. Pyzel, Pittsburg, Cal., assignors to Shell Development Co. Filed May 21, 1935. No. 2,184,930.

Process of improving resistance of mineral oil—A. J. van Peski, Amsterdam, Netherlands, assignor to Shell Development Co. Filed Mar. 1, 1937. No. 2,184,944.

Solvent extraction of lubricating oils—August Schlageter, N. D. de Gravenchon, Seine Inferieure, France, assignor to Standard Franco-Americaine de Raffinage. Filed Sept. 1, 1936. No. 2,184,961.

Treatment of hydrocarbon oils—Victor Stapleton, Port Arthur, Tex., assignor to Texas Co. Filed Nov. 15, 1933. No. 2,185,041.

Process of hydrogenating hydrocarbon oils—E. W. Stevens, Baltimore, assignor to Washovia Bank & Trust Co., Forsyth County, N. C. Filed Jan. 31, 1939. No. 2,185,070.

Method for producing olefin-sulfur dioxide resins—F. E. Frey and R. D. Snow, Bartlesville, Okla., assignors to Phillips Petroleum Co. Filed Jan. 31, 1936. No. 2,184,295.

Process for preparing derivatives of hydroformed naphthas and products thereof (resins)—W. J. Sweeney and K. C. Paughlin, Baton Rouge, assignors to Standard Oil Development Co. Filed Oct. 16, 1935. No. 2,184,325.

Diesel fuel and method of preparing—B. H. Shoemaker and H. R. Batchelder, Hammond, Ind., assignors to Standard Oil Co. (Ind.) Filed Aug. 9, 1937. No. 2,184,440.

Process for separation of thiophenols from alkyl phenols—D. B. Luten, Jr., and S. B. Thomas, Berkeley, Cal., assignors to Shell Development Co. Filed Apr. 15, 1939. No. 2,184,928.

Rustproofing composition—J. C. Zimmer, Hillside, N. J., and J. B. Crutchfield, Richmond, Va., assignors to Standard Oil Development Co. Filed Apr. 30, 1938. No. 2,184,952.

Blending agent for gasoline—E. R. Gilliland, Cambridge, Mass., and Raphael Rosen, Elizabeth, N. J., assignors to Standard Oil Development Co. Filed Feb. 6, 1937. No. 2,184,956.

Method of polymerization with boron fluoride—A. J. Gleason and Raphael Rosen, Elizabeth, N. J., assignors to Standard Oil Development Co. Filed Sept. 14, 1935. No. 2,184,957.

Plasticized synthetic rubber composition—Peter J. Gaylor, Elizabeth, N. J., assignor to Standard Oil Development Co. Filed Dec. 18, 1936. No. 2,184,966.

Diesel fuel—E. M. Nygaard and G. S. Crandall, Woodbury, N. J., assignors to Socony-Vacuum Oil Co. Filed Nov. 30, 1938. No. 2,185,157.

Mid-Continent Orders Wax Plant

Mid-Continent Petroleum Corp. has contracted for the installation of a unit of the Lummus Emulsion process for the production of crude scale and fully refined waxes. The unit will be substituted for the old sweating process.

The is the second unit of this new process to be installed by the Lummus Co. for refiners. The first unit has been in operation for two or three months at the Bradford Oil Refining Co. plant, Bradford, Pa.

El Tejon to Expand

El Tejon Oil & Refining Co. is having its Bakersfield, Cal., refinery surveyed by Universal Oil Products Co. with the view of increasing gasoline output, according to Gould Fitch, president of El Tejon. A licensing agreement has been signed. The refinery will be modernized with the latest Dubbs improvements.

At present the El Tejon refinery is running 2500 to 3000 barrels daily of local crude and is operating a viscosity-breaking unit which produces 22-25% of cracked gasoline. Other products are diesel oil tractor distillate and heavy fuel oil.

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Activities OF EQUIPMENT MANUFACTURERS

PRESSURE CONTROLLERS—Information on a new and improved line of pressure controllers is contained in Catalog D1, just issued by Fisher Governor Co., Marshalltown, Iowa. Outstanding construction features are the new Wizard pilot control valves and new built-in throttling range, adjustable from 1% to 75% of the tube range.

* * *

ELECTRIC MOTOR—Longer motor life with less maintenance are the advantages offered by a new rotor construction announced by General Electric Co. for the larger sizes of double-squirrel-cage motors for high-starting-torque, low-starting-current service. It makes possible the use of cast aluminum construction and of a unique shape of rotor slot and method of assembling rotor punchings to control the flow of starting current.

The construction permits current flow in the outer squirrel-cage when the motor is started without the use of a switch or other moving parts, thus producing high-starting torque. Then, when the motor comes up to speed, current is allowed to flow through the entire rotor "winding", resulting in excellent running characteristics, it is said. The rotor is known as the Valv-amp because of its equivalent effect to having a magnetic switch or "valve" built into the rotor.

* * *

C. Stribling Snodgrass of Snodgrass Perrin & Co., Ltd., arrived in New York recently from London where he has made his headquarters for some years. His firm is technical advisor and consultant for certain petroleum and shale oil refiners in the British Empire.

* * *

DIESEL ENGINES—A concise explanation of modern high-speed, heavy-duty diesel engines is presented in a new booklet just issued by Hercules Motors Corp., Canton, Ohio. The material is handled in question and answer form and is said to have aroused more interest than any other booklet issued by the company.

* * *

INSTRUMENTS—A new line of thermometers and pressure gauges is announced by The Brown Instrument Co., Philadelphia. The instruments are said to be "entirely new inside as well as out." They include vapor-actuated, gas-actuated, and mercury-actuated types for both indicating and recording. Styling is by Henry Dreyfuss. The instruments are featured in Booklet No. 2-17.

* * *

New manager of E. B. Badger & Sons Co. Pacific Coast Division, San Francisco, is A. J. Broggini. Mr. Broggini, a graduate of the University of Michigan in Chemical Engineering, joined Badger several years ago. His experience has been in the design, construction, and operation of solvent refining and dewaxing units, and the Houdry process.

• • •

A. J. Broggini

SYNTHETIC RUBBER—The B. F. Goodrich Co., Akron, Ohio, is ready, if necessity demands, to turn immediately to the manufacture of synthetic rubber from coke, limestone, and salt, it was reported by Dr. Howard E. Fritz of that company before the Cleveland Advertising Club recently. Some 20 to 30 millions of dollars would be required to begin quantity production.

* * *

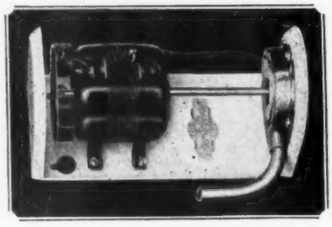
GAS DESULFURIZATION—Koppers Co., Pittsburgh, has been awarded a contract for what is said to be the largest plant ever built for the purification of natural gas. The plant will be a Seaboard process type removing hydrogen sulfide from gas to be used in the manufacture of carbon black.

The plant will be located at Borger, Texas, for The J. M. Huber Corp., manufacturers of gasoline and carbon black. Its capacity will be 70,000,000 cubic feet of gas a day. Erection is expected to start about March 15 and the plant be complete by May 15.

In addition to making possible an improved product, it is stated that the cost of maintenance will be reduced by reduction of corrosion in all plant equipment. The plant is a continuous absorption and actification process in which the gas is scrubbed in an absorber tower with a solution of sodium carbonate. The solution, after leaving the absorber, goes to a second similar tower, an actifier, where it is aerated by a stream of air and hydrogen sulfide is separated.

* * *

PUMP—A new acid resisting pump designed for evaporative coolers and chemical laboratories has been developed by the Air-O-Line Co., 2118 Griffin St., Dallas.



The pump is made of stainless steel and mounted on a vitreous porcelain enameled stand. Three sizes range from 140 to 360 gallons per hour.

* * *

TUBES—Condensed technical data on high-temperature steel tubes has been revised in Technical Bulletin No. 12-A just issued by The Babcock & Wilcox Tube Co. Curves and a complete tabulation gives analysis, applications, minimum physical properties, creep strength, short time tensile strength, oxidation resistance, corrosion resistance, temper embrittlement, working qualities, and approximate relative cost for 15 different materials. Copies are available by addressing requests to 19 Rector St., New York.

* * *

MONEL METAL—The International Nickel Co., 67 Wall St., New York, has just revised Bulletin T-9 on the Engineering Properties of "K" Monel. The bulletin contains properties, working instructions, heat treatment, corrosion resistance, and applications of this metal.

* * *

MIXER CLAMP—A new hand clamp that simplifies adjustment of "Lightnin" portable mixers is announced by Mixing Equipment Co., Rochester, N. Y. Hand wheels have been substituted for wrenches for both adjustment and supporting clamp. Chief feature of the new clamp is a double wedge with the hand wheel to tighten the unit.

Opening "NPN's"

Spring Change-Over Campaign

THIS issue introduces NATIONAL PETROLEUM NEWS' first effort to help make the oil industry's SPRING CHANGE-OVER Campaign the most successful of any.

NATIONAL PETROLEUM NEWS took up the oil industry's Winter Change-Over sales campaign last September and contributed 42 pages of its own editorial material toward making it a bigger success than any heretofore. NPN also enlisted the co-operation of the presidents of six prominent state oil marketing associations. These active Independent marketers not only called on their own members but on all marketers to do the best job of MANAGING their fall Change-Over campaign, so that every customer might be sold.

The NPN Spring Change-Over Campaign is divided into three parts,—

1—The use of modern equipment at service stations in order to make more sales of lubricants as well as batteries and tires. The Feb. 7th issue is dedicated to this subject. Articles on it will be continued in the other February issues.

2—The Modern Service Station—its construction, equipment and how to make it bring in extra profits. To this big subject is dedicated the March 6th issue, which is the Annual Service Station Number of NATIONAL PETROLEUM NEWS. In this issue will be operating stories and particularly NPN's picture Gallery of Modern stations, giving not only photographs but working plans and layout of building and equipment.

3—The April 3rd issue will be the annual Spring Change-Over Issue, which, like its counterpart last Nov. 1st for the Winter campaign, undertakes to give the final shove to the industry's Spring Drive. This issue will tell not only how to get the most selling from stations and equipment but how to make the best use of sales helps, advertising, and particularly just what MANAGEMENT can do to see that all instructions are carried out at the pump island, during April and well into May.

A Change-Over Job is something that is ACTUALLY SOLD. The customer is not aware that he has to have it until he runs into trouble and he often can go many thousands of miles without noting that trouble. Gasoline the motorist cannot help buying, but lubricating jobs, fresh lubricant in axle and transmission, good tires instead of those worn smooth, and a new battery to replace the one that begins to run down, all these many a motorist figures he can worry along without for another hundred or thousand miles.

So when a Change-Over job is SOLD it is a sale that is created, rather than stolen from some one else. Hence the importance to the oil industry of getting in these EXTRA dollars through these EXTRA SALES in Spring and Fall. Furthermore, it is generally recognized that a motorist once sold a good Change-Over job is easier to keep coming back for proper refill and attention to his car.

This spring promises to be by far and away the biggest Change Over opportunity in the history of the industry, because of the extreme severity of the winter so far. And the weather prophets say there is every indication the rest of the winter will continue to be severe.

Quite a few millions of motorists have been introduced to a Winter Change-Over probably for the first time in their lives, because deep snow and freezing and even sub-zero weather swept down through the "deep south" and even to the shores of the Gulf of Mexico. Marketers in the south and middle south report a continual stream of Change-Over jobs as soon as the car owners can dig themselves out of the drifts.

And the severity of the winter up north, according to report, has also increased the sales of lubricating jobs above the normal of a "warm" year. In fact, the extremely warm, even summer, temperatures of the late fall caused many a motorist to delay and then the sub-zero weather sent him into the nearest service station in a hurry—as soon as he could get his cold engine started.

In preparation, therefore, for the Spring Change-Over, NPN's opening articles are particularly timely because they deal with lubricating equipment so that more jobs can be handled to the better satisfaction of the motorist, but particularly to the greater profit of the oil marketer. The chief cost of a lubricating job is the labor, the amount of time it takes to apply the oil and grease. The more the time on the job can be shortened, the more jobs can be handled and the greater the profit per job and per dollar of investment.

Equipment Is Sales Tool

There is also the further fact that modern lubricating and servicing equipment is so made not only to be a display of the lubricant but to be a display that makes it easier for the station attendants to make the sales. As the writer of the following story points out, it was not easy to sell a lubricating job with a bucket of kerosine and a can of grease and a dirty oil measure to show the motorist. But these modern lubricating equipment devices, all shiny in chromium steel and spick and span enamel, with gadgets galore . . . they tell the motorist that lubricating a car today is more of a science, that it is relatively foolproof and that he—the motorist—can rest assured that it is thoroughly done.

So to tell this first story of NPN's campaign, a story of servicing equipment, we have asked J. N. Westsmith, for some years our Los Angeles News Bureau manager and now permanently assigned to Cleveland as Engineering Editor, to write from his first hand knowledge. Mr. Westsmith is a graduate engineer of Leland Stanford University, and he also is one of the few thousand young men who, when the depression hit them, got hold of a service station and ran it.

The following story tells how modern equipment for service stations looks today to a couple of college graduates, of Leland Stanford and Yale, who ran what was then a "modern" station but today would be considered of rather pioneer type, out on Wilshire Boulevard in Los Angeles. They kept the wolf from their doors with their buckets and cans and hand guns but Mr. Westsmith points out, they could do a whole lot better job of it and keep a much bigger wolf away, if they had it to do over again with all the new sales equipment that is afforded today's stations.

Opening "NPN's" Spring Change-Over Campaign

Modern equipment is the keynote of the two lift lubritorium in this new Gulf Oil Corp. station at Memphis. Block lettering advertises the various servicing features, including "Lubrication Under Actual Road Conditions," "Internal Motor Flushing" and "Vacuum Cleaning." Modern vacuum cleaners are shown by each of the center columns

"I'd Like to Sell 'Lube' Jobs With 1940 Equipment" . . . .

NPN Staff Writer Who Ran a Station in 1934-35 Tells How Better Sales Arguments Can Be Built Around the Modern Equipment He Finds in Lubritoriums Today

By J. N. Westsmith

I'D LIKE to operate a 1940 service station, with its "eye-appeal" and a lubricating emporium containing all the new and intriguing devices which now go to make up modern servicing equipment.

This is no idle whim, but arises from the exceedingly profitable operation, five years ago, of a station that, by today's standards, was anything but modern.

The following is an analysis on how, as I see it, first class, modern equipment has helped the sale of oils, greases and lubrication services at today's service stations.

It is based partly on my own experiences and partly on observations over the past few years and particularly within recent weeks as I have taken note of just how modern equipment can be put to best advantage in creating new business and extra profits.

I said this was to be my own story, and it is. My qualifications to make these comments go back to an engineering diploma obtained from Leland Stanford University in 1928, includes some time spent in the engineering department of an oil equipment company and two years operating a Los Angeles gasoline service station.

The station experience was obtained in 1934 and 1935, during the first depression, on a station leased from a major oil company with national distribution and a national advertising program.

As a partner in this venture, I had a Phi Beta Kappa graduate from Yale who had previously worked for the Bureau of Standards. We selected a company whose consumer-accepted products would offer a minimum of sales resistance, but found other products were "accepted" and that other arguments were needed to convince customers that we knew our business and that their cars would receive the best care in our hands.

That was before the days of much of the modern equipment available today. Of course this station had a lift, bulk oil hy-boys and metered gear oil dispensers. Lubrication equipment included a full rack of hand-operated grease guns — with cartridges which were quite likely to run out of grease or get plugged in the middle of a job. A pinch-bar was an essential instrument for freeing frozen shackles, king pins and other points.

Bulk containers for chassis lubricants and gear oils were not exactly things of beauty designed to attract and impress the customer, but were 100-pound drums delivered from the bulk station and were kept out of sight in a lean-to at one side of the "lubritorium."

There was nothing dramatic or convincing about the equipment used in

Tell its real name

Eleven Dubbs refiners have introduced their gasoline to the trade or to the motorist or both by its right name—Dubbscracked gasoline—and here they are:

Arro Oil & Refining Co	*Lewistown, Montana*
Bay Petroleum Corp	*Denver, Colorado*
Big West Oil Company	*Kevin, Montana*
Fletcher Oil Co, Inc	*Los Angeles, California*
Glacier Production Co	*Cut Bank, Montana*
Gramps Oil & Refining Corp	*Alamosa, Colorado*
Independent Refining Co	*Laurel, Montana*
Leonard Refineries, Inc	*Alma, Michigan* *St Louis, Michigan*
Northwest Refining Co	*Cut Bank, Montana*
Pana Refining Co	*Pana, Illinois*
Wilshire Oil Co, Inc	*Santa Fe Springs, California*

If you are one of these 11, you know the result—if not you can find out

Dubbscracking is the way to make gasoline

Dubbscracked is a good name to sell

Dubbscracked gasoline is good gasoline to buy

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

$197,000,000 Market For Essential Services In 1940 Spring Change-Over

● The coldest weather in 40 to 50 years in many parts of the country is laying the groundwork for a $197,000,000 Spring Change-Over market this season.

The sudden drop to sub-zero temperatures made Winter Change-Over servicing necessary for millions of motorists who have not heretofore had their cars winter conditioned. Nearly 25,000,000 cars will need a complete Spring Change-Over before they will be protected for the higher speeds and longer runs of summer driving.

The essential products and services that will be necessary to safeguard these cars in the high temperatures of summer driving will create a total market for the oil companies of more than $197,000,000. This figure does not include the market for the large number of accessory items that will also be needed by these 25,000,000 motorists, which are easiest to sell when cars are on the lifts for Change-Over servicing.

Several factors will contribute to making this Spring Change-Over market the biggest the oil industry has had. Among these are:

1. More cars will have been winter conditioned for sub-zero temperatures and will be active prospects for Spring Change-Over services.

2. Extreme cold weather accelerates motor oil contamination, making an oil change and thorough motor flushing especially important before summer driving conditions are encountered.

3. Advance sales of new car models were unusually large in the late summer and early fall of 1939. The conscientious owners of these cars will be hot prospects for the protection offered by a thorough Spring Change-Over.

Improved business and industrial activity will mean more cars on the road. More and longer vacations will be planned—with travel to the two coast Fairs again a factor—and more money will be spent on the proper care of cars.

NATIONAL PETROLEUM NEWS' estimate of the total market for the various essentials of Spring Change-Over servicing is as follows:

Chassis lubrication (ave. $1 per car)	$25,000,000
Motor oil drain and refill (ave. per car 5 qts., at 25c per qt.)	31,250,000
Motor flushing service (ave. $1 per car)	25,000,000
Transmission and differential drain (ave. 5 pts. at 25c per pt.)	31,250,000
Transmission and differential flushing (ave. 50c per car)	12,500,000
Radiator flushing and refill with anti-rust compound (ave. $1.00)	25,000,000
Front wheel bearings repacked (ave. $1 per car)	25,000,000
Spark plugs cleaned at 5c each (ave. six per car)	7,500,000
Air filters cleaned on 15 million cars (ave. 35c each)	5,250,000
Repacking metal spring covers on 10 million cars (ave. $1 per car)	10,000,000
Total market	$197,750,000

performing extra-profit services. A goose-necked hand gun and a bucket of kerosine made up the equipment for flushing transmission and differential cases. A gallon of flushing oil run in the engine for five minutes cleaned the motor. Front wheel bearings were repacked by hand, and air filters were cleaned by swishing them around in another bucket of kerosine.

Certainly there was little about this assortment which would impress the customer, with its modern or technical aspects, or which would reduce servicing time or lend itself as a sales tool in explaining to a customer why his car serviced with this equipment would last longer, perform better and give more economical operation.

When contrasted with that 1934 equipment, the array of shining, efficient and convincing servicing facilities found in the 1940 service station is further explanation of why I'd like to operate a station today. I definitely would not like to operate a 1940 station with 1935 equipment, however.

Value of better appearance in impressing customers, and the need for less time and expenditure of energy, are two rather generally accepted advantages of new and modern equipment. Not as well understood or recognized, even though used unconsciously by some station salesmen to good advantage, is the value of modern equipment, or some feature of this equipment, as an effective sales tool.

Oil marketer's stations I have visited in recent weeks offered some outstanding examples of how up-to-date equipment can really be "another salesman" in the lubritorium, if used to full advantage. Salesmen became enthused and found no difficulty in expressing strong sales arguments when they could demonstrate with an impressive piece of equipment.

It was observed that some station salesmen had been trained to build their lubrication solicitation around the modern equipment featured in attractive displays. Others, because it was easier to talk and explain if they could get their hands on a piece of equipment, were unconsciously using modern features of this equipment as a sales tool. They often denied any such intent, when asked, however.

WHAT was even more apparent was that the latest equipment or the equipment with the greatest number of new gadgets or auxiliary devices, that could be pushed, pulled, or otherwise manipulated during a demonstration, provoked the most enthusiasm on the part of the salesman and produced the most convincing sales talks.

Perhaps manufacturers of station servicing equipment could take a page from the experience of automobile and washing machine companies and add new gadgets to their equipment, from time to time, which would give service salesmen new talking points, even if they served no other purpose.

The value of such gadgets was illustrated during an interview with one oil marketer who had an investment of $3500 in modern equipment at one station. He had purchased a motor flusher a year ago—a few months before new models were introduced with a new and impressive dial and some other changes which made the outside of the machine look like the instrument panel on a China Clipper.

Although these changes improved efficiency of the equipment to some extent, a more important factor to this marketer was that these new gadgets would impress the car owner and would provide additional ammunition for the salesmen in talking up the need for a motor flushing job.

In commenting on how up-to-date equipment can be used to help the sale of more oil, grease, and lubricating services, one marketer said; "Customers like to buy from a man who knows

(*Continued on page* 34)

TO OUR 32,000 READERS

Thanks!

for your 2500 helpful suggestions for improving THE NEOPRENE NOTEBOOK

Thanks! **—for the many kind words telling us how much you enjoy *The Neoprene Notebook.***

• • •

Thanks! **—for the many helpful criticisms—because, after all, *we want you to read it!***

SO IN 1940...

THANKS TO YOU—You'll get more news (8 pages) of neoprene uses... more detailed technical information...a new Reamer Keller cartoon ("Neoprene Nonsense")... more "Letters" and several other new features. We think you will like the "Notebook" (1940 model!) even more.

BUT—if you are not already a regular reader of *The Neoprene Notebook* (tsk! tsk!), you'd better send us the coupon right away. And if neoprene is new to you—better ask for a copy of *The Neoprene Handbook*—BOTH ARE FREE.

DU PONT NEOPRENE

The Chemical Rubber

- **Made by Du Pont from coal, limestone and salt—it has the strength, resilience and toughness of natural rubber, but is far more resistant to oils, gasoline, heat, ozone, aging, sunlight and corrosive acids and gases.**
- **Somewhere in your product... or your process... or your plant, you'll find neoprene can save you money.**

N. P. N.

E. I. du Pont de Nemours & Co. (Inc.)
Rubber Chemicals Division, Wilmington, Delaware

☐ Please send me regularly *The Neoprene Notebook.*
☐ Please send me a copy of *The Neoprene Handbook.*

Name .....

Title .....

Business Address .....

City .....

Winter Change-Over Honor Roll

● Oil marketers and their gains in Winter Change-Over sales last November, from November of the year before, as reported to NATIONAL PETROLEUM NEWS.

Diamond Star Marketers are those showing a gain of 100% or more in sales.

Gold Star Marketers showed a gain of 50% or more.

Silver Star Marketers increased their Change-Over business in November by 25% or more from the year before.

In its Winter Change-Over campaign last fall, NPN announced it would spotlight out-standing marketers, in their sales increases in November, in a Roll of Honor. Unseasonally warm weather last November, however, made many motorists put off their Change-Over servicing. As a result, many marketers found their real increases in sales came later and they did not report their gains in business in November. The following are marketers who reported percentage gains in their November sales to NATIONAL PETROLEUM NEWS.

DIAMOND STAR MARKETERS

100% Inc. and Over

Lubricants and Grease Jobs

B. J. Jurgens, Chancellor, S. D.
J. W. Endres, Sterling Petroleum Co., Mt. Sterling, O.
Wachovia Oil Co., Winston-Salem, N. C.
Earle Alexander, R. D. Hill Oil Co., Yankton, S. D.
Leader Oil Co., Sycamore, Ill.
M. J. Herbert, Anderson-Rudolph Oil Corp., Buffalo, N. Y.
L. F. Blackstone, Hocking Valley Oil Co., Lancaster, O.
Herman Feldman, Jefferson Oil Co., Saginaw, Mich.

Anti-Freeze Sales

W. A. Porter, Jr., Porter Oil Co., Spooner, Wis.
C. A. Shelton, Siler City, N. C.
Earle Alexander, R. D. Hill Oil Co., Yankton, S. D.
Wachovia Oil Co., Winston-Salem, N. C.
J. W. Endres, Sterling Petroleum Co., Mt. Sterling, O.
Herman Feldman, Jefferson Oil Co., Saginaw, Mich.

New Battery Sales

J. W. Endres, Sterling Petroleum Co., Mt. Sterling, O.
John P. Frick, Alex, Okla.
F. E. Hall, McDowell Oil & Gas, Inc., Akron, O.
Leslie A. Briggs, Briggs Public Service Co., Appleton, Minn.
W. A. Porter, Jr., Porter Oil Co., Spooner, Wis.
Herman Feldman, Jefferson Oil Co., Saginaw, Mich.

New Tire Sales

J. W. Endres, Sterling Petroleum Co., Mt. Sterling, O.
Tri-Point Oil Co., Pueblo, Colo.
F. E. Hall, McDowell Oil & Gas, Inc., Akron, O.
J. A. Pruitt, Quality Oil Co., Emporia, Kans.
Leslie A. Briggs, Briggs Public Service Co., Appleton, Minn.
W. C. Sterling, Sterling's Corner, Steubenville, O.
Herman Feldman, Jefferson Oil Co., Saginaw, Mich.
M. Manley, Williams Oil Co. Inc., Remsen, N. Y.

Other Accessory Sales

Leslie A. Briggs, Briggs Public Service Co., Appleton, Minn.
Earle Alexander, R. D. Hill Oil Co., Yankton, S. D.
W. N. Dunnigan, Black Eagle Oil Co., Inc., Milwaukee, Wis.
John P. Frick, Alex, Okla.
B. J. Jurgens, Chancellor, S. D.
J. W. Endres, Sterling Petroleum Co., Mt. Sterling, O.
G. M. Pratt, Buhl Sons Co., Detroit, Mich.
Herman Feldman, Jefferson Oil Co., Saginaw, Mich.
Tri-Point Oil Co., Pueblo, Colo.

GOLD STAR MARKETERS

50% Inc. and Over

Lubricants and Grease Jobs

F. E. Hall, McDowell Oil & Gas, Inc., Akron, O.
W. C. Sterling, Sterling's Corner, Steubenville, O.
Leslie A. Briggs, Briggs Public Service Co., Appleton, Minn.
W. N. Dunnigan, Black Eagle Oil Co. Inc., Milwaukee, Wis.
M. G. Holmquist, Holmquist Grain & Lumber Co., Oakland, Nebr.
Harry Zabell, Dumont Oil Co., Dumont, Minn.
Charles Carroll, Carroll-Binder Co., Xenia, O.
A. Trogan, Center Oil Co., Saginaw, Mich.

Gold Star Marketers

Anti-Freeze Sales

Charles Carroll, Carroll-Binder Co., Xenia, O.
Harry Zabell, Dumont Oil Co., Dumont, Minn.
M. G. Holmquist, Holmquist Grain & Lumber Co., Oakland, Nebr.
W. A. Byrns, The Sebring Gas & Oil Co., Sebring, O.
M. Manley, Williams Oil Co. Inc., Remsen, N. Y.
B. J. Jurgens, Chancellor, S. D.
The Tri-Point Oil Co., Pueblo, Colo.

New Battery Sales

M. Manley, Williams Oil Co. Inc., Remsen, N. Y.
Harry Zabell, Dumont Oil Co., Dumont, Minn.
Charles Carroll, Carroll-Binder Co., Xenia, O.
G. M. Pratt, Buhl Sons Co., Detroit, Mich.
A. H. Benson, R. E. Benson & Sons, Lodi, O.
L. J. Homant, Homant Bros. Oil Co., Alpena, Mich.
W. C. Sterling, Sterling's Corner, Steubenville, O.

New Tire Sales

A. H. Benson, R. E. Benson & Sons, Lodi, O.
Harry Zabell, Dumont Oil Co., Dumont, Minn.
B. J. Jurgens, Chancellor, S. D.
W. A. Byrns, Sebring Gas & Oil Co., Sebring, O.
Leader Oil Co., Sycamore, Ill.
Earle Alexander, R. D. Hill Oil Co., Yankton, S. D.
W. N. Dunnigan, Black Eagle Oil Co., Inc., Milwaukee, Wis.

Other Accessory Sales

Harry Zabell, Dumont Oil Co., Dumont, Minn.
F. E. Hall, McDowell Oil & Gas, Inc., Akron, O.
M. Manley, Williams Oil Co. Inc., Remsen, N. Y.
W. C. Sterling, Sterling's Corner, Steubenville, O.

SILVER STAR MARKETERS

25% Inc. and Over

Lubricants and Grease Jobs

G. M. Pratt, Buhl Sons Co., Detroit, Mich.
M. Manley, Williams Oil Co. Inc., Remsen, N. Y.
Reilly J. Baker Oil Co., St. Louis, Mo.
W. H. Thomas Service Station, Ironton, O.
John P. Frick, Alex, Okla.
W. A. Porter, Jr., Porter Oil Co., Spooner, Wis.
R. L. Mitchell, Spartan Petroleum Co., Spartanburg, S. C.
A. H. Benson, R. E. Benson and Sons, Lodi, O.
Ashby Robinson, Old Fort, N. C.
W. A. Byrns, Sebring Gas & Oil Co., Sebring, O.

Anti-Freeze Sales

John P. Frick, Alex, Okla.
W. N. Dunnigan, Black Eagle Oil Co. Inc., Milwaukee, Wis.
Leader Oil Co., Sycamore, Ill.
Leslie A. Briggs, Briggs Public Service Co., Appleton, Minn.
L. J. Homant, Homant Bros. Oil Co., Alpena, Mich.
F. E. Hall, McDowell Oil & Gas, Inc., Akron, O.
W. C. Sterling, Sterling's Corner, Steubenville, O.
D. E. Apodara, Don's Service Station, Socorro, N. Mex.
H. A. Goos, Winner, S. D.
A. D. Dubuisson, Wolverine Service Stations, South Haven, Mich.
Ashby Robinson, Old Fort, N. C.
J. Herbert, Anderson-Rudolph Oil Corp., Buffalo, N. Y.
W. H. Thomas, Ironton, O.

New Battery Sales

D. E. Apodara, Don's Service Station, Socorro, N. Mex.
Leader Oil Co., Sycamore, Ill.
W. N. Dunnigan, Black Eagle Oil Co. Inc., Milwaukee, Wis.
W. H. Thomas, Ironton, O.
W. A. Byrns, The Sebring Gas & Oil Co., Sebring, O.
J. W. Lloyd, Lloyd Motor Sales Co., Rockford, O.
H. A. Goos, Winner, S. D.
Ashby Robinson, Old Fort, N. C.

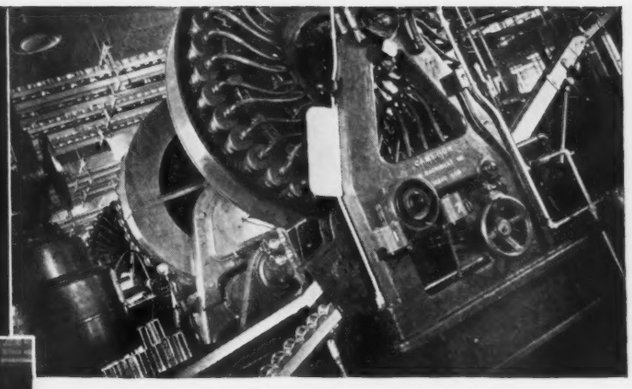
New Tire Sales

John P. Frick, Alex, Okla.
G. M. Pratt, Buhl Sons Co., Detroit, Mich.
M. G. Holmquist, Holmquist Grain & Lumber Co., Oakland, Nebr.
H. A. Goos, Winner, S. D.
L. B. Townsend, Servicenter, Inc., Ithaca, N. Y.
R. L. Mitchell, Spartan Petroleum Co., Spartanburg, S. C.
G. M. Pratt, Buhl Sons Co., Detroit, Mich.
W. A. Porter, Jr., Porter Oil Co., Spooner, Wis.
W. H. Thomas, Ironton, O.
Ashby Robinson, Old Fort, N. C.

Other Accessory Sales

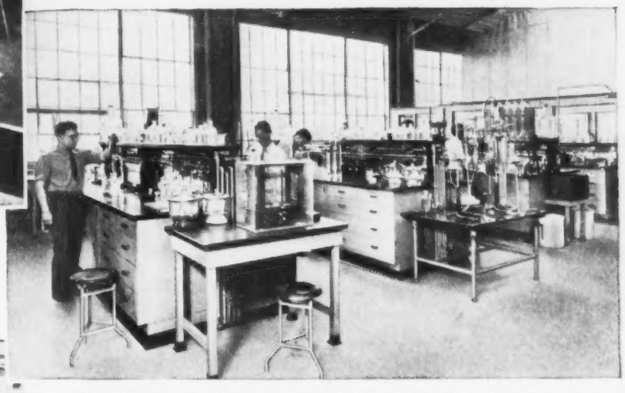
M. G. Holmquist, Holmquist Grain & Lumber Co., Oakland, Nebr.
Charles Carroll, Carroll-Binder Co., Xenia, O.
J. A. Pruitt, Emporia, Kans.
Ashby Robinson, Old Fort, N. C.
Leader Oil Co., Sycamore, Ill.
W. A. Byrns, The Sebring Gas & Oil Co., Sebring, O.
A. H. Benson, R. E. Benson and Sons, Lodi, O.
H. A. Goos, Winner, S. D.
L. J. Homant, Homant Bros. Oil Co., Alpena, Mich.

Quality CONTROL

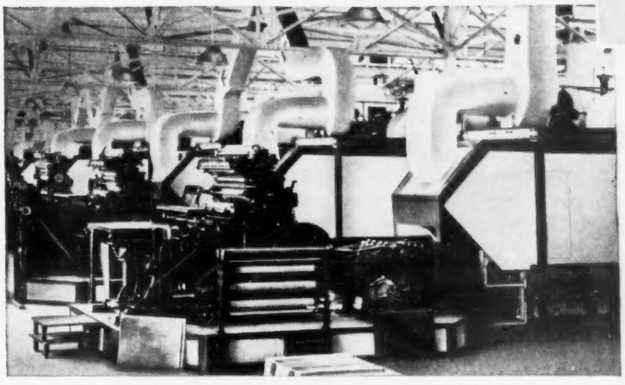


This big can tester is protection against leakage and is typical of the splendid, modern equipment in Crown's great new plant at Philadelphia.

Crown maintains large engineering staffs at Philadelphia and Baltimore for the development and fabrication of better containers.



The Chemical laboratories at Philadelphia have fully equipped bacteriological, chemical and processing departments. Raw materials are subject to the most rigid inspection.



Only the latest type of lithographing equipment is used in Crown's big plant. That is why Crown Cans are so superior in appearance and design. ★

AT all Crown plants, control is the watchword. Control of plate, control of dies and tools, control of all equipment by the most painstaking and unremitting inspection and supervision.

CROWN CAN COMPANY, PHILADELPHIA, PA.

Division of Crown Cork and Seal Co.

BALTIMORE ST. LOUIS HOUSTON MADISON ORLANDO

CROWN CAN

INDEPENDENT AND HELPFUL

Credit Change-Over Gains To—

(1) Modern Stations and Equipment

(2) Organized Sales Campaigns

With modern stations and using modern equipment. With more stress laid on SELLING—on the pump island, in house-to-house solicitation or by direct mail.

One or both of these methods were credited for increasing their Change-Over business last fall and winter, by oil marketers reporting their sales to NATIONAL PETROLEUM NEWS for its Winter Change-Over Honor Roll.

These marketers, in sending their sales increases to NPN, were also asked to tell, "How They Did It!" In answering this point they emphasized the importance to the marketer of planning the campaign well ahead of time, so that the station men would be well coached and enthusiastic when the Change-Over drive started and would hold their enthusiasm throughout the campaign.

NPN's Honor Roll was based on sales increases the marketers made in November from November of the year preceding. The mild weather last November slowed up Change-Over sales in some sections of the country, however, and marketers there made greater sales increases in either October or December than in November. The following experiences, except in an instance or so, are based on marketers' sales in November.

TACTFUL WARNINGS BOOST SALES

"A word to the wise is sufficient." This is the idea behind sales talks used by B. J. Jurgens, Chancellor, S. D., to convince customers of the need for Winter Change-Over. Showing gains of 100 per cent in sales of lubricants and "other accessory items," over 1938, this marketer tactfully warned customers of approaching cold weather, pointed out the risk of damage to their cars and suggested a complete Change-Over early enough so that winter would not catch them unprepared.

MODERN STATIONS IMPORTANT AS CHANGE-OVER AID

Modernization of facilities paid big dividends to many marketers in the Winter Change-Over campaigns. With a new super service station, described by observers as "one of the most attractive buildings in the village," J. W. Enders, Sterling Petroleum Co., Mt. Sterling, Ohio, reported a 100 per cent increase in all departments for November.

The company expects to show a further increase in 1940 with its new set-up, which replaced provisions for servicing from curb pumps and was designed to meet "today's competition."

Pages from NPN's Winter Change-Over campaign issues were posted at a conspicuous place in service stations and ideas gathered from these issues were used in local newspaper advertising.

Leslie A. Briggs, Briggs Public Service Co., Appleton, Minn., credited a new super service station, complete in every detail, together with an alert service program, with gains which ranged from 25 per cent on anti-freeze to 370 per cent on sales of new tires.

An increase in sales of lubricants and services, anti-freeze, and accessories, other than tires and batteries, of 100 per cent, and a boost of 75 per cent in new tire sales, was attributed by the R. D. Hill Oil Co. of Yankton, S. D., to a new super station.

DRIVEWAY SELLING TURNED THE TRICK

The importance of creating enthusiasm for the Change-Over drive among pump island salesmen was stressed by several marketers. A. D. Dubuisson, South Haven, Mich., whose stations indicated a 100 per cent gain in sales during an October campaign, said success for boosting gear oil sales was the early solicitation of every customer on the drive and in the lubritorium. Salesmen were provided with convincing sales talks and a list of prospects were called when necessary.

"Urging better salesmanship on the driveway was the best thing we did," says C. A. Shelton, Silver City, N. C., with the added comment that the station operator is the actual seller and the oil marketer benefits to the extent that this customer contact man is "pepped up."

SALES CONTESTS GO OVER BIG

One way to create enthusiasm for a special selling drive among station operators, is a sales contest. The Black Eagle Oil Co., Inc., Milwaukee, Wis., says W. N. Dunnigan, vice president, used a sales campaign in which every dollar's worth of merchandise sold was good for 2.5 points toward payment of merchandise.

The merchandise was all nationally advertised and included everything from radios to sports equipment and baby buggies. This marketer reported the idea went over in a big way and that the cost was nominal.

PLANNED DISPLAYS PROVE EFFECTIVE

Effective displays help boost Change-Over sales. This was the experience of two marketers who realized the importance of showing a variety of products in attractive settings.

The Carroll-Binder Co., Xenia, Ohio, combined local advertising and post-card follow-up with a complete change in store room display to increase new battery sales 75 per cent, accessory sales 25 per cent, and new tire sales 10 per cent.

New glass display counters for showing "new and up to the minute accessory items" were used by Ashby Robinson, Old Fort, N. C., to develop interest and sales in these items.

Although the use of new ideas was discounted by this marketer, a 20 to 35 per cent increase in sales resulted from "thorough house-to-house solicitation, stocking of all advertised brands of anti-freeze, a complete stock of batteries, for everything from model 'T' to the latest 1940 models, and effective use of 'A-Frame' signs in all station driveways."

"SELL AT A PROFIT" MARKETER'S MOTTO

Selling merchandise and services at a profit is the motto of W. C. Sterling, Steubenville, Ohio, who said "nothing unusual" was responsible for sales increases averaging well above 50 per cent in all departments. "Just solicitation with most customers being prospects for something or other." He says: "A laborer is worthy of his hire and we think that our merchandise and service is worthy of a price that shows a profit. Anyone selling on price alone is a 'weakling,' whether big business or small."

GOOD REPUTATION BRINGS THEM BACK

Some eating establishments build their reputations around one or two specialties that competition either can't or won't produce. A somewhat similar system is followed by the Porter Oil Co., Spooner, Wis., which showed a 400 per cent increase in new battery sales during the November Change-Over drive.

"Adequate testing devices for batteries and a long standing reputation for honesty in charging batteries, brings in old and new customers," says W. A. Porter, Jr. He adds that opportunities for profitable sales are produced by "quick cold snaps common to the territory, which immediately show up poor batteries."

PRESENTING
DODGE *Job-Rated TRUCKS

*Job-Rated MEANS: A Truck That Fits YOUR Job! Here's Why!

	DODGE	TRUCK 2	TRUCK 3
ENGINES	6	1	3
WHEELBASES	17	9	6
GEAR RATIOS	16	6	9
CAPACITIES (Ton Rating)	6	3	4
STD. CHASSIS and BODY MODELS	96	56	42
PRICES Begin At	$465	$450	$474.18

Prices shown are for ½-ton chassis with flat face cowl delivered at Main Factory, federal taxes included—state and local taxes extra. Prices subject to change without notice. Figures used in the above chart are based on published data.

ONE SURE WAY OF GETTING A TRUCK TO FIT YOUR JOB!

WHEN YOU BUY a new 1940 Dodge truck you get a Job-Rated truck! *You can get a truck that fits your particular hauling needs.* Each truck in the broad line of Dodge Job-Rated trucks is designed and built throughout for durable, long-life operation. From engine to rear axle each Dodge Job-Rated truck is *engineered and sized right* to deliver *top* performance with dollar-saving economy. That's why your next truck can be the best truck you ever owned . . . more dependable, more economical . . . the source of more satisfaction . . . *a truck that fits your job!*

GET THIS FREE BOOKLET EXPLAINING A BETTER WAY TO BUY A TRUCK TO FIT YOUR JOB

Before you buy any truck, *get this booklet* from your Dodge dealer or write to Dodge Division, Chrysler Corporation, Detroit, Mich.

6 ENGINES

Each Dodge truck is powered *right* for the hauling job—with an engine specifically engineered for the truck in which it is installed.

8 REAR AXLES

In ½-ton to 3-ton capacities a total of eight different rear axles is used. Each is *sized for the truck*... and the load it will haul.

4 CLUTCHES

Each Dodge Job-Rated truck has a clutch that is extra big—extra strong—and built to last because it's sized for the truck.

20 FRAMES

One of twenty frames gives durable strength to each Dodge Job-Rated truck—assuring the right foundation for its rated load.

3 TRANSMISSIONS

Dodge trucks have 3-speed, 4-speed or 5-speed transmissions according to the power and size of the truck. All *rate* for the job!

9 SPRING Combinations

Dodge springs *"stand up to the load"* because correctly sized and designed springs are used on each Dodge Job-Rated truck.

DEPEND ON DODGE Job-Rated TRUCKS

Dependable DODGE TRUCK SERVICE *Everywhere*

SEE YOUR DODGE DEALER FOR DEPENDABLE USED TRUCKS

3-2-1½-1-¾-½-TON CAPACITIES... 96 STANDARD CHASSIS AND BODY MODELS ON 17 WHEELBASES

PRICED WITH THE LOWEST FOR EVERY CAPACITY

TO ENGINE VARNISH

The industry faces a serious problem in engine varnish—that tacky substance which commits sabotage in modern motors. By clinging to the pistons, valves and cylinder walls, it causes serious trouble.

Conewango engineers have licked engine varnish with a new refining process called Selective Adsorption. This process, used *exclusively* for Conewango Process Motor Oil, removes varnish forming ingredients and improves lubricating qualities.

The pistons shown above were run at Pennsylvania State College under identical conditions; the first with a high grade, conventionally refined Pennsylvania oil, the second with Conewango Process Oil of the same S.A.E. grade. Note how Selective Adsorption virtually eliminates varnish formation!

This revolutionary development offers unusual profits to alert dealers and jobbers. Write now for complete information.

Conewango Process
VARNISH FREE
MOTOR OIL

Fine Pennsylvania Oil
MADE FROM THE HEART OF THE CRUDE
Copyright 1939

THE CONEWANGO REFINING CO.
WARREN, PENNA.

"I'd Like to Sell 'Lube' Jobs With 1940 Equipment . . .

(*Continued from page 28*)

and can explain features and advantages of products or services he has to sell. The average station salesman does not appreciate the value of using equipment—of talking about the equipment and what it will do—in making the customer really want to buy."

The operator of a recently modernized retail outlet, who makes it a special point to emphasize the higher caliber of work possible with 1940 equipment, adds this observation; "The public doesn't question the quality of established oil company products, but does question the ability of station men to perform satisfactory service. These salesmen can be more convincing and generally more enthusiastic if they can illustrate with a piece of modern equipment and tell why its use will do a better lubrication job."

This operator has trained his salesmen to take advantage of every opportunity to call his customers' attention to the display of the station's modern lubritorium. Because the equipment cannot be taken to the customer, the customer is taken to the equipment. An entering wedge for the sales talk is made by placing some attractive piece of portable equipment in plain view of motorists at the pump island, rest rooms or air and water facilities—usually at the front of the lubritorium.

If the salesman sees the lubrication prospect has a few minutes, or can catch him on the way to or from the rest room, he opens his drive for new business and profits with something to the effect of: "If you have a few minutes Mr. Prospect, I would like to show you some new equipment we have put in so we could give our customers the best service in town. You know the manufacturers of your car say . . . ."

Then as the salesman directs the customer's attention to the particular equipment on display—which may be a wheel bearing packer, a motor flusher, air-filter cleaner, or some other device—he tells what the auto manufacturer says about repacking wheel bearings, cleaning sludge out of the motor, and so on. He punctuates his remarks with repeated reference to the equipment, how it works and why it gives a better job.

It is not necessary that the equipment be spectacular to be made an effective selling aid. Nearly every modern device now in use to improve servicing procedure and appearance of the station or lubritorium will lend itself to selling.

Lifts are not exactly beautiful to look at, but, often without knowing why, few motorists would patronize a station today that did not feature a lift. Unquestionably a point in favor of this facility is that the service operator can see and find the points to be lubricated, more easily than with the old fashioned pit. This gives a more thorough lubrication job and reduces the possibility that fittings will be missed—facts which would impress the customer.

A second lift can be used effectively in the solicitation of extra profit business as an illustration of the station's ability to handle a rush job and as evidence that the station is well patronized.

Gone, in the 1940-equipped stations, are the unsightly grease drums, which collected dust, dripped grease, and made good housekeeping a difficult feat. Today these essential containers are disguised by shining enamel covers in colors to match the station and finished in chrome trim.

Offered in a variety of designs, in-

W. I. Rehr, lessee of a Shell Oil Co. station in Cleveland, tells this prospective customer how this enamel-coated chassis lubricant dispenser works and why it permits the station to give better service in less time

cluding separate units for the various lubricants used in volume, such as chassis, gear and hypoid lubricants, or as combination units housing a number of drums under a single cover, these cabinets are either portable or stationary.

Today these are the central theme in the equipment display at a modern station and are located usually at the inside end of the lifts, to catch the customer's eye and give further conviction that this is a modern and efficient station.

If clothes make the man, then these covers give the grease drum a definite air of assurance and personality. In a sales talk they can be pointed to as the station's guard against contamination of lubricants and assurance that the proper lubricants will be used.

Used in connection with these cabinets is the light-weight, clean and convenient grease nozzle, which has replaced the old hand gun of the 1934 station, with its cartridge of lubricants. Unseen by the customer, the lubricants are now supplied to these nozzles by air pressure delivered to the cabinets.

In some instances, where stationary cabinets are used, underground or overhead piping delivers the lubricants to a central hose rack alongside the lift, or between the lifts if there are two or more.

To the station operator, this silent flow of lubricants means a saving in time, less expenditure of energy and efficient use of products. To the customer, it should mean—if pointed out in the sales talk—that his car will be more thoroughly lubricated with the high-pressure nozzles and that it is less likely to be smeared with waste grease.

ALMOST standard equipment in the 1940 station is the auxiliary jack used to take the weight of the car off the bearings during the lubrication procedure. Some of these are built to operate in conjunction with the lift—sliding on the inside rails. These can be used either to lift the body by upward pressure against the frame or, if equipped with a special device, agitate the car in an up-and-down motion during chassis lubrication. The jack is raised by air.

Other types of this equipment, which has practically eliminated the strong-arm, pinch-bar method for freeing frozen bearings, rest on the floor or lift, with a rod extension transmitting pressure to one side or end of the chassis. Actuated by intermittent air pressure, these devices simulate road action during lubrication.

Such equipment lends itself particularly to advertising, solicitation and actual demonstration of the station's ability to give the "best lube job in town". Customers are interested and impressed when told how a "Floating Body" or "Lubrication under Actual Road Conditions" permits an even flow of lubrication around bearings that tend to "freeze" under the weight of the body. Important among such

Robert Yarnall Richie

The line is ours . . . but the protection is yours!

Here's three-man inspection of a General American line. The check makes certain the line is clean—sound—ready to carry your commodity without waste or contamination. The trained men on our payroll work for *your* protection. And our modern tanks and loading equipment are all yours for safety and economy—without a penny's investment on your part. Make use of these great terminals for safe storage and speedy handling of your commodity—ship to tank or tank car—or vice versa. Join the world leaders who profit from General American Terminal Service.

Strategically located to serve you!

GATX GENERAL AMERICAN

GENERAL AMERICAN TANK STORAGE TERMINALS

Goodhope, La. and Westwego, La., (Port of New Orleans)
Corpus Christi, Texas
Carteret, N. J. (Port of New York) Galena Park, Texas (Port of Houston)

A DIVISION OF GENERAL AMERICAN TRANSPORTATION CORPORATION

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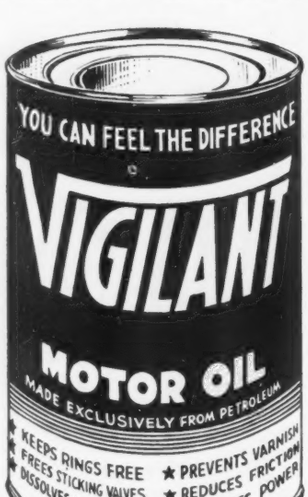

A RARE OPPORTUNITY

Read the "story" on the can. This remarkable oil is ahead of competition . . motorists actually feel the difference . . beautifully designed quart cans. Full of sales appeal.

Write for information

Penna. Petroleum Products Co.
1625 So. Water St.
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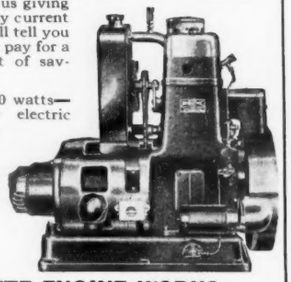
MORE LIGHT- MORE BUSINESS

WITTE DIESELECTRIC PLANTS

Light up your station in the modern way—with a WITTE Dieselectric Plant, and lighten your expense at the same time. Then you'll have your own electricity for *LESS* THAN ONE CENT A KILOWATT! These sturdy, compact plants give you a steady flow of flickerless current. Operate on cheap, non-explosive fuel—reduce fire hazards. And you pay for only the current you produce and use.

PAY FOR THEMSELVES — Available under Gov't F.H.A.— nothing down, 36 months to pay. Write us giving your monthly current cost and we'll tell you how you can pay for a WITTE out of savings.

1500 to 8000 watts—Manual or electric starting or Automatic Control. $825 and up f.o.b., K.C., Mo.



WITTE ENGINE WORKS
3702 Oakland Ave. Kansas City, Mo.

The **"OVERHEAD DOOR"**
"Trade Mark"

THE DOOR WITH THE
MIRACLE WEDGE
wedges tightly—YET—opens easily

IMPORTANT:
The fast, smooth operation of this *weathertight* door will help solve your heating problems. Write for free descriptive literature *today*.

Backed by
A NATION-WIDE SALES INSTALLATION SERVICE
OVERHEAD DOOR CORPORATION, Hartford City, Indiana, U. S. A.

PENNSYLVANIA MOTOR OILS
IN CANS — DRUMS — TANK CARS

Write for PRICES

Buyers cans received—stored—filled and shipped as wanted.

INDUSTRIAL OIL CORPORATION
WARREN, PENNA.
ESTABLISHED 1924

points are the rocker arms on modern independent front wheel suspensions, shackle bolts and king pins.

Not to be overlooked in the modern equipment available today are the facilities used in selling special plus-profit services. By their very nature they fit into the slogan, "You have to tell 'em to sell 'em".

Internal motor flushing is assuming tremendous importance in the list of service station profit possibilities, as a result of the prominence given "varnish" deposits and sludge accumulations in motors under some operating conditions. Flushing equipment is providing the station operator with new ammunition for selling a motor cleaning service with each oil drain, or at least every other one.

For the most part, these are impressive in appearance, with numerous gadgets such as dials, switches and glass tubes, which show the customer the condition of his oil before, during and after the flushing operation.

No motorist with any regard for the life of his engine could have the operation of one of these flushing units demonstrated to him and not appreciate the value of the service.

DEMONSTRATION of this equipment is highly important. Few motorists understand the part oil plays in lubricating the engine or the extent to which this oil becomes contaminated, but they can understand if they see the flushing oil clean up right before their eyes.

One marketer found sales efforts were 90 per cent effective when the flushing machine could be demonstrated and tied in with a sales talk, and only 20 per cent effective when the prospect was just told how it worked.

This holds equally true in presenting sales arguments built around equipment for cleaning old lubricants out of transmission and differential housings and for flushing these cases.

Failure of station operators to remove summer-driven gear lubricants thoroughly in the Winter Change-Over service, caused some cars to give trouble in sub-zero temperatures, according to the lubricants manager of one oil company. The modern heat gun with its heating element and fan provides an easy and safe method for thawing out the old grease prior to a drain.

If this is followed by application of one of the several flushing devices, by which solvents are sprayed under pressure into the housings and then sucked out repeatedly, lubricant change-over will be that much more effective.

The need for completely draining gear lubricants and flushing the housings is not well understood by the average motorist, but is looked upon as high pressure selling. However, if the station salesman calls attention to the special equipment required for servicing these points and to the possible damage if gear lubricants together with any abrasive materials, are not

The flushing oil goes down and around and the dirt comes out here, this station salesman points out, as he demonstrates the operation of a modern flushing unit. Not shown in the picture is the great enthusiasm of the salesman as he explained the operation

placement of these accessories, with this kind of a demonstration.

In general the use of modern equipment as an aid to selling more oil, grease and services sums up to the fact that few motorists understand either the manner in which these products or services give longer life to their cars or, the important function that modern equipment plays in insuring the proper application of the lubricants.

Most motorists, however, can be convinced to the point of purchase, if their needs are explained by a sales talk backed up and illustrated by clean, attractive displays of complete servicing facilities.

completely removed—particularly important in preventing contamination of hypoid lubes—the value of this service will be more apparent to the prospect.

Most 1940 stations with modern lubritoriums include as part of their essential equipment, devices for repacking wheel bearings. These not only reduce the time required for this service but again serve as impressive illustration of the station's ability to do a job that some car owners hesitate to take to an oil company station.

It has been found that this service is far easier to sell if the bearing packer is made part of an attractive display, where a demonstration can be made of how just the right quantity of bearing lubricant—not too little or too much—is applied to the bearing evenly and thoroughly. Several damaged bearings should be included in the display to demonstrate what can happen when this service is neglected.

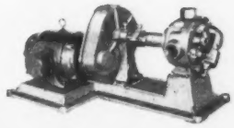
Mechanical devices for cleaning air filters are found in many stations today. Here the sales argument, accompanied by demonstration, can bring out the thoroughness with which these filters are cleaned under a pressure spray, compared to the old way of swishing them around in a bucket of kerosine.

Many station operators overlook the profits possible from periodic lubrication of metal covered springs. Car owners do not disassociate springs from a general chassis lubrication and noisy springs immediately cast reflection on the completeness of a chassis job. Spring repacking must be sold and the equipment used in this service should be on prominent display and used frequently in solicitation of this extra-profit service.

Not to be excluded from the equipment that forms a background for modern merchandising in the service station are the devices for cleaning and testing spark plugs and for testing and recharging batteries. This equipment finds its most useful location in the lubritorium. Too often, however, it has lost its appeal as a sales tool and is hidden in some obscure corner.

It is difficult to convince a customer that the station is up-to-date if a screw driver is used to tell whether the plugs are in good condition. It is also difficult to sell a cleaning service and re-

If you'll stop right now and check over your pumping needs . . if you'll look into Viking's complete line of rotary pumps for petroleum products —you'll enjoy pumping profits that will make you sit up and take notice. With Viking you have a pump that will smoothly handle all types of liquids, both light and heavy . . a pump of only 2 moving parts that will slash repair and replacement costs. It was built to pump petroleum products, that's why it does a better job.



Special mountings, drive arrangements and capacities can be furnished immediately for any of your "tricky" pumping assignments. Write today for complete specifications.

VIKING PUMP COMPANY
CEDAR FALLS, IOWA

Markets

Pennsylvania

CLEVELAND, Feb. 3.—Continuation of the decline in bright stock and neutral oil prices featured the western Pennsylvania refinery market in the week ended Feb. 3. Kerosine prices were higher. Other refined products generally were reported unchanged.

Neutral oils, 25 pour test, were offered 1 to 2c a gal. lower at 28 to 30c for 200 vis., and 26 to 28c for 150 vis. Bright stock, 25 pour, also was off 1c at 27 to 29c.

Domestic buyers were said to be pretty well stocked on lubes with material taken against contracts late last year. Export demand lagged because of full storage at the eastern seaboard, refiners said. One refiner said he had lots of bright stock orders on his books but was having trouble getting shipping instructions. A tanker sunk recently had been expected to pick up 30,000 bbls. of oil, it was said.

Mid-Western

CHICAGO, Feb. 3.—The cold wave which had covered the country east of the Rockies in two weeks of zero and below weather was broken in the Middle West the past week. Refiners and tank car marketers in Chicago, however, said that burner fuel demand continued good throughout the week.

Refiners' quotations were reported unchanged and ranged from 3.75 to 4c for range oil, 3.75 to 3.875c for No. 1 p.w., 3.625 to 3.75c for No. 1 straw, 3.50 to 3.625c for No. 2 straw, 3.375 to 3.50c for No. 3, 3.75 to 4.25c for 41-43, and 3.875 to 4.625c for 42-44 w.w. kerosine. Some marketers' quotations were 0.125 to 0.25c below refiners' lows. Tank car marketers reported selling 2 cars of 41-43 kerosine at 3.75c, 2 cars of range oil at 3.625c, 8 cars of range oil at 3.75c, 1 car of No. 2 straw at 3.50c and 1 car of No. 3 straw at 3.375c, FOB Group 3.

Demand for gasoline continued "slow", according to reports, although some refiners and marketers reported a slight upturn toward the end of the week. Refiners' gasoline quotations ranged from 3.75 to 4.25c for 62 octane and below, 4c for 63-66 octane, 4.25 to 4.75c for 67-69, and 4.50 to 5c for 70-72, FOB Group 3. Tank car marketers' quotations were 0.25 to 0.625c below refiners' low quotations. Open spot sales of 1 car of 62 octane and below at 3.125c, 5 cars of 70-72 octane Texas leaded at 4.125c, 2 cars of 70-72 octane Texas leaded at 4c, 7 cars of 70-72 octane leaded at 3.875c, and 20 cars of Ethyl at 5c were reported during the week by tank car marketers.

Atlantic Coast

NEW YORK, Feb. 3.—Advances in open spot quotations for kerosine at several seaboard points featured Atlantic Coast markets the past week. Prices were up 0.25c on the lows to 5.50c at Miami, Tampa, Pensacola, Philadelphia; up 0.125c to 5.375c at Mobile, and up 0.75c to 6c at Baltimore. A sale of 10,000 bbls. at 6c was reported by a Baltimore supplier. Reports indicated that cold weather had tied up water transportation at Richmond, and had caused a drain on the already limited supplies of kerosine and fuel oils at Baltimore and Norfolk. Two suppliers said they were shipping by tank car into Richmond from these points.

Quotations reported for 72-74 octane gasoline at Philadelphia and Baltimore were up 0.25c on the lows at 6.75c. A supplier reported initial quotations for 60-64 octane gasoline at New York, of 6.50c for tank car, and 6.375c for barge delivery. Suppliers generally discontinued quoting on "65 octane and above", and only one supplier reported quoting on gasoline with octane rating between 64 and 68. He said his gasoline ran 65 to 66 octane. This supplier's quotations for 65-66 octane were in some instances as much as 0.25c above quotations reported by some other suppliers for higher octane grades.

No changes in quotations for fuel oils were reported. Demand for all grades continued heavy, suppliers said.

Gulf

NEW YORK, Feb. 3.—With the exception of an 0.125c advance to 4.375c for GCRA specification kerosine, refiners' quotations for products at the Gulf generally were reported unchanged the past week. Late in the week, a refiner from the southwest reported receiving an export inquiry for a cargo of gas oil, and two mixed cargoes of gasoline, kerosine and gas oil for March lifting. No open spot sales were reported.

A seller with storage at the Gulf said he was offering 70 octane unleaded and 72-74 octane leaded gasoline for 30 to 90 days lifting at 5.25c. Refiners' quotations for these products ranged from 5.875 to 6.25c for 70 octane unleaded, and from 5.75 to 6.25c for 72-74 octane leaded. This seller also said he was offering No. 2 fuel at 4c, 41-43 w.w. kerosine at 4.25c and bunker "C" fuel, cargoes, at $1.00.

N. P. N. Refinery Index

The Refinery Index shown below represents the return in cents per barrel (42 gallons) from refining a barrel of 36 gravity Mid-Continent crude into its various principal products. The index is calculated by subtracting the current price of crude at the well from the average price of refined products sold at current quoted Oklahoma refinery market prices.

Date	Margin
Feb. 1	46.3
Month ago	47.9
Year ago	34.4

Mid-Continent

TULSA, Feb. 3.—The "run" on heating and industrial fuels that ended early the past week left Mid-Continent refiners with little kerosine, range oil and fuel oil in storage, according to reports here. Although the weather had moderated and demand had "edged off," buyers said it still was difficult to obtain even odd-car lots of fuel oils for immediate delivery.

Milder weather and the re-opening of highways caused many local jobbers to flock to Mid-Continent refineries with trucks for gasoline. Most of the deliveries of gasoline were against contracts, refiners said. Scattered one and two-car open spot sales were reported. Quotations generally were reported unchanged.

California

LOS ANGELES, Feb. 3.—Lowering of crude prices by Standard of California had a depressing effect on all Pacific Coast petroleum markets, according to reports here the past week.

During the week, in the Los Angeles Basin, two small refineries closed down and one changed hands. Disposal of accumulated stocks of fuel oil was reported to be their chief difficulty.

Because of the continuing decline in demand, fuel oils moved to still lower levels and sold within a narrower range. At independent plants in the Basin area, light oils ranged from $0.55 to $0.70 a bbl., a decline of 5c a bbl.

Diesel fuel and stove distillate also were off 0.25c per gal. at those plants, bringing quotations to a range of 2.50 to 5c a gal.

Suppliers reported an increase in inquiries from foreign buyers, although no actual business was reported, and most of the requests for bids were believed to be exploratory. European buyers were said to have canvassed the possibility of shipping gasoline from Los Angeles to Spain via the Suez Canal, with the thought that lower insurance rates might offset the higher cost of the longer haul.

REFINERY TANK CAR MARKETS

All prices on this page are publisher's opinion of open market quotations or sales, for spot shipment (10 to 15 days) unless otherwise stated. Prices in cents per gallon, except heavy fuel oils in dollars per barrel of 42 gallons, wax and petrolatums in cents per pound in barrels, tank car lots, FOB refineries in districts designated, except where otherwise noted. Inter-refinery and export prices not included unless so stated in the respective markets. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude. Unless otherwise noted, gasoline octane ratings are determined by C.F.R. Motor method, A.S.T.M. D-357-33T; and lubricating oil specifications determined according to A.S.T.M. methods, unless otherwise noted

Gasoline

Prices Effective	Feb. 5	Jan. 29
OKLAHOMA Refiners' Quotations & Sales Prices		
U. S. Motor: (Oct. L-3)		
62 oct. & below	3.75 – 4.125	3.75 – 4.25
63-66 oct.	4.00 –4.4375	4.00 –4.5625
67-69 oct.	4.25 – 4.75	4.25 – 4.875
70-72 oct.	4.50 – 5.00	4.50 – 5.125
60-62 400 e.p.	(c) 3.875–4.25	(c) 4.00 – 4.25
WESTERN PENNA. REFINERS' QUOTATIONS		
Bradford-Warren:		
Motor gasoline:		
U.S. Motor (58-62°)	(a) 5.00	(a) 5.00
65 oct. (L-3)	(a) 6.50	
65 oct. (CFR motor method)	(a) 6.75	
"Q" gasoline	6.75	6.75
75-76 oct. (L-3)	(a) 7.05	(a) 7.05
Other districts:		
Motor gasoline:		
U. S. Motor (58-62° gravity):	(f)	(f)
66-68 oct. (L-3)	(a) 6.00	(a) 6.00
"Q" gasoline	5.50 – 5.75	5.50 – 5.75
75-76 oct. (L-3)	(a) 6.25	(a) 6.25
CENTRAL MICHIGAN (h)		
Str.-Run Gasoline	(i) 4.00 –4.25	(i) 4.00 –4.25
U.S. Motor: (Oct. L-3)		
67-69 oct.	5.50 – 6.25	5.50 – 6.25
72-74 oct.	6.25 – 7.00	6.25 – 7.00

Prices Effective	Feb. 5	Jan. 29
CALIFORNIA		
U. S. Motor:		
54-58 gravity, for in-state shipment	5.75 – 9.25	5.75 – 9.25
54-58 gravity, for out-side state shipment	6.25 – 9.00	6.25 – 9.00
58-61 gravity, 375-400 e.p., 65 oct. & above	7.25 – 9.75	7.25 – 9.75
N. TEX. REFINERS' QUOTATIONS (b)		
U. S. Motor: (Oct. L-3)		
62 oct. & below	3.875– 4.25	3.875– 4.25
63-66 oct.	4.125– 4.25	4.125– 4.25
67-69 oct.	4.375– 4.50	4.375– 4.50
70-72 oct.	4.625– 5.00	4.625– 5.00
60-62, 400 e.p.	(c) 3.875–4.00	(c) 3.875–4.00
KANSAS (For Kansas destinations only)		
U. S. Motor: (Oct. L-3)		
62 oct. & below	(a) 4.375	(a) 4.375
67-69 oct.	(a) 4.625	(a) 4.625
70-72 oct.	(a) 5.125	(a) 5.125
W. TEX. REFINERS' QUOTATIONS (b)		
U. S. Motor: (Oct. L-3)		
62 oct. & below	(c) 4.00 –4.25	(c) 4.00 –4.25
63-66 oct.	(a) 4.50 –4.625	(a) 4.50 –4.625
67-69 oct.	(c) 4.50 –4.75	(c) 4.50 –4.75
70-72 oct.	(c) 4.75 –5.00	(c) 4.75 –5.00

Prices Effective	Feb. 5	Jan. 29
CENT. W. TEX. REFINERS' QUOTATIONS (Prices to truck transports)		
U. S. Motor: (Oct. L-3)		
62 oct. & below	(a) 4.125	(a) 4.125
63-66 octane	(a) 4.75	(a) 4.75
66-70 octane	(f)	(f)
E. TEX. REFINERS' QUOTATIONS		
U. S. Motor: (Oct. L-3)		
70-72 oct.	(a) 4.75	(a) 4.75
60-62, 400 e.p.	(a) 4.25	(a) 4.25
N. LA. REFINERS' QUOTATIONS (For shipment to La. & Ark.)		
U. S. Motor: (Oct. L-3)		
62 oct. & below	(a) 4.125–4.375	(a) 4.125–4.375
63-66 oct.	(a) 4.375–4.625	(a) 4.375–4.625
70-72 oct. leaded	(a) 4.875–5.125	(a) 4.875–5.125
ARKANSAS REFINER'S QUOTATIONS (F.o.b. Ark. plant of one refiner, for shipment to Ark. & La.)		
U. S. Motor: (Oct. L-3)		
62 oct. & below	4.00	4.00
67-69 oct.	4.50	4.50
70-72 oct.	5.00	5.00
OHIO (S. O. Ohio quotations for statewide delivery and subject to exceptions for local price disturbances)		
70-72 oct.	7.00	7.00

(Continued on next page)

MID-WESTERN REFINERS' TANK CAR QUOTATIONS

Prices in this Midwestern Refiners' Tank Car Market table are gathered from refiners from their offices located in Chicago and the surrounding territory. While the prices are quoted on a Group 3 (Oklahoma) freight rate basis, this is in accordance with the custom of the oil industry which uses Group 3 as a price basis for the ease of comparing prices even when the material originates in another refining district. All other gasoline prices are given by and for the particular refining district where the material is made and from which it is shipped.

Gasoline

Prices Effective	Feb. 5	Jan. 29
U. S. Motor: (Oct. L-3)		
62 oct. & below	3.75 – 4.25	3.75 – 4.25
63-66 oct.	(c) 4.00	(c) 4.00
67-69 oct.	4.25 – 4.75	4.25 – 4.875
70-72 oct.	4.50 – 5.00	4.50 – 5.125

Kerosine

41-43 grav. w.w.	3.75 – 4.25	3.75 – 4.25
42-44 grav. w.w.	3.875– 4.625	3.875– 4.625

Fuel and Gas Oils

Prices Effective	Feb. 5	Jan. 29
No. 1 p.w.	3.75 – 3.875	3.75 – 3.875
No. 1 straw	(c) 3.625–3.75	(c) 3.625–3.75
No. 2 straw	3.50 – 3.625	3.50 – 3.625
No. 3	3.375– 3.50	3.375– 3.50
No. 5	(a) $0.70	(a) $0.70
No. 6	(c) $0.50–$0.55	(c) $0.50–$0.55
Range oil	(c) 3.75 – 4.00	(c) 3.625–3.875

Naphtha and Solvent

Prices Effective	Feb. 5	Jan. 29
(FOB Group 3 as quoted by two Chicago sellers)		
Stoddard solvent	6.375	6.375
Cleaners' naphtha	6.875	6.875
V. M. & P. naphtha	6.875	6.875
Mineral spirits	5.875	5.875
Rubber solvent	6.875	6.875
Lacquer diluent	7.875	7.875

Daily range of gasoline prices as reported in PLATT'S OILGRAM (Week Ended Feb. 2, 1940)

U. S. Motor, (Octane Number determined according to L-3 Method in Okla., Texas and Mid-Western Districts):	Jan. 29	Jan. 30	Jan. 31	Feb. 1	Feb. 2
62 octane and below:					
Oklahoma	3.75 – 4.25	3.75 – 4.125	3.75 – 4.125	3.75 – 4.125	3.75 – 4.125
(a) North Texas	3.875– 4.25	3.875– 4.25	3.875– 4.25	3.875– 4.25	3.875– 4.25
West Texas	(c) 4.00 –4.25	(c) 4.00 –4.25	(c) 4.00 –4.25	(c) 4.00 –4.25	(c) 4.00 –4.25
Mid-Western (Group 3 basis)	3.75 – 4.25	3.75 – 4.25	3.75 – 4.25	3.75 – 4.25	3.75 – 4.25
63-66 octane:					
Oklahoma	4.00 –4.5625	4.00 –4.5625	4.00 –4.4375	4.00 –4.4375	4.00 –4.4375
(a) North Texas	4.125– 4.25	4.125– 4.25	4.125– 4.25	4.125– 4.25	4.125– 4.25
West Texas	(a) 4.50 –4.625	(a) 4.50 –4.625	(a) 4.50 –4.625	(a) 4.50 –4.625	(a) 4.50 –4.625
Mid-Western (Group 3 basis)	(c) 4.00	(c) 4.00	(c) 4.00	(c) 4.00	(a) 4.00
67-69 octane:					
Oklahoma	4.25 – 4.875	4.25 – 4.75	4.25 – 4.75	4.25 – 4.75	4.25 – 4.75
(a) North Texas	4.375– 4.50	4.375– 4.50	4.375– 4.50	4.375– 4.50	4.375– 4.50
West Texas	(c) 4.50 –4.75	(c) 4.50 –4.75	(c) 4.50 –4.75	(c) 4.50 –4.75	(c) 4.50 –4.75
Mid-Western (Group 3 basis)	4.25 – 4.875	4.25 – 4.75	4.25 – 4.75	4.25 – 4.75	4.25 – 4.75
70-72 octane:					
Oklahoma	4.50 – 5.125	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00
(a) North Texas	4.625– 5.00	4.625– 5.00	4.625– 5.00	4.625– 5.00	4.625– 5.00
West Texas	(c) 4.75 – 5.00	(c) 4.75 – 5.00	(c) 4.75 – 5.00	(c) 4.75 – 5.00	(c) 4.75 – 5.00
East Texas	(a) 4.75	(a) 4.75	(a) 4.75	(b) 4.75	(b) 4.75
Mid-Western (Group 3 basis)	4.50 – 5.125	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00
Motor Gasoline, 60-64 octane:					
New York harbor	(b) 6.70	(b) 6.70	(b) 6.50 – 6.70	(b) 6.50 – 6.70	6.50 – 6.70
Philadelphia district	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75
Baltimore district	6.25 – 6.75	6.25 – 6.75	6.25 – 6.75	6.25 – 6.75	6.25 – 6.75
Motor Gasoline, 65 octane & above:					
New York harbor	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00
Philadelphia district	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75
Baltimore district	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00
U. S. Motor, 58-62°:					
Bradford-Warren (Western Penna.)	(a) 5.00	(a) 5.00	(a) 5.00	(a) 5.00	(c) 5.00
Other districts (Western Penna.)	(f)	(f)	(f)	(f)	(f)
Motor Gasoline, Min. 65 octane:					
Bradford-Warren (Western Penna.)	(c) 6.50 – 6.75	(c) 6.50 – 6.75	(c) 6.50 – 6.75	.....	.....
65 octane (L-3)					
Bradford-Warren (Western Penna.)	.....	.....	.....	(a) 6.50	(a) 6.50
65 octane (CFR Motor method)					
Bradford-Warren (Western Penna.)	.....	.....	.....	(a) 6.75	(a) 6.75
66-68 octane (L-3)					
Other Districts	(a) 6.00	(a) 6.00	(a) 6.00	(a) 6.00	(a) 6.00
"Q" Gasoline:					
Bradford-Warren (Western Penna.)	6.75	6.75	6.75	6.75	6.75
Other Districts (Western Penna.)	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75
75-76 Octane: (L-3)					
Bradford-Warren (Western Penna.)	(a) 7.05	(a) 7.05	(a) 7.05	(a) 7.05	(a) 7.05
Other Districts (Western Penna.)	(a) 6.25	(a) 6.25	(a) 6.25	(a) 6.25	(a) 6.25

(a) One refiner quoting. (b) One supplier quoting. (c) Two refiners quoting. (d) Two suppliers quoting. (e) Prices nominal. (f) No quotations reported. (g) Prices FOB Central Michigan refinery group basis, for shipment within Michigan. Shipments may originate at plants outside Central group. (h) For shipment to Texas and New Mexico destinations. (i) Excluding Detroit shipment.

REFINERY TANK CAR MARKETS

All prices on this page are publisher's opinion of open market quotations or sales, for spot shipment (10 to 15 days). Prices in cents per gallon except heavy fuel oils in dollars per barrel of 42 gallons, tank car lots, FOB refineries in districts designated, except where otherwise noted. Inter-refinery and export prices not included, unless so stated in the respective markets. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude. Unless otherwise noted, gasoline octane ratings are determined by C.F.R. Motor method, A.S.T.M. D-357-33T; and lubricating oil specifications determined according to A.S.T.M. methods, unless otherwise noted.

Natural Gasoline Prices

(Prices to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.)

Prices Effective	Feb. 5	Jan. 29
FOB GROUP 3		
Grade 26-70	(m)2.00	(m)2.00
FOB BRECKENRIDGE		
Grade 26-70	(l)1.75	(l)1.75
CALIFORNIA (F.o.b. plants in Los Angeles basin)		
75-85, 350-375 e.p. for blending	6.00 – 6.25	6.00 – 6.25

Kerosine

WESTERN PENNA. REFINERS' QUOTATIONS

Bradford-Warren:		
45 grav. w.w.	5.00 – 5.125	4.75 – 5.125
46 grav. w.w.	(e)5.25	(e)5.25
Other districts:		
45 grav. w.w.	4.75 – 5.00	4.75 – 4.875
46 grav. w.w.	4.875– 5.00	4.875– 5.00
47 grav. w.w.	5.00 – 5.125	5.00 – 5.125
CENTRAL MICHIGAN (a)		
47-49 gravity w.w.	4.75 – 5.10	4.75 – 5.10
OKLAHOMA Refiners' Quotations & Sales Prices		
41-43 grav. w.w.	3.75 – 4.25	3.75 – 4.25
42-44 grav. w.w.	3.875– 4.625	3.875– 4.625
KANSAS (For Kansas destinations only)		
41-43 gravity w.w.	(e)4.25	(e)4.25
42-44 gravity w.w.	(e)4.375	(e)4.375
N. TEX. REFINERS' QUOTATIONS (b)		
41-43 grav. w.w.	(h) 3.75 –3.875	(h)3.75
E. TEX. REFINERS' QUOTATIONS		
41-43 grav. w.w.	(e)3.50	(e)3.50
N. LA. REFINERS' QUOTATIONS (For shipment to La. and Ark.)		
41-43 grav. w.w.	(e) 3.50 –3.75	(e) 3.50 –3.75
ARK. REFINER'S QUOTATIONS (F.o.b. Ark. plant of one refiner for shipment to Ark. and La.)		
41-43 grav. w.w.	4.00	4.00
CALIFORNIA		
40-43 grav. w.w.	.....	4.50 – 6.00

Gas and Fuel Oils

WESTERN PENNA. REFINERS' QUOTATIONS

Bradford-Warren:		
36-40 gravity	(h)4.75	(h)4.75
Other districts: (Excluding Pittsburgh District Prices)		
36-40 gravity	3.875– 4.50	3.875– 4.50
CENTRAL MICHIGAN (a)		
P.W. Distillate	4.75 – 5.00	4.75 – 5.00
No. 3 gas oil, Str.	4.25 – 4.50	4.25 – 4.50
U.G.I. gas oil	3.00 – 3.75	3.00 – 3.75
Fuel Oils (Vis. at 100):		
500-700 Vis.	(e)3.25	(e)3.25
300-500 Vis.	2.75 – 3.75	2.75 – 3.75
100-300 Vis.	(e) 3.50 –3.75	(e) 3.50 –3.75
OKLAHOMA		
No. 1 P.W.	3.75 –3.8125	3.75 –3.8125
No. 1 straw	(h) 3.50 –3.75	(h) 3.50 –3.75
No. 2 straw	3.50 – 3.625	3.50 – 3.625
No. 2 dark	(e)3.50	(e)3.50
U.G.I. gas oil	(h)3.25	(h)3.25
No. 3 fuel	3.375–3.4375	3.375–3.4375
No. 5 fuel	(n)	(n)
No. 6 fuel	(h)$0.50	(h)$0.50
14-16 fuel	(e)$0.85	(e)$0.80
Range Oil	3.75 – 3.875	3.75 – 3.875
KANSAS (For Kans. destinations only).		
No. 1 p.w.	(e)4.00	(e)4.00
No. 6 fuel	(h)$0.60	(h)$0.60
N. TEX. REFINERS' QUOTATIONS (b)		
No. 1 P.W.	(e)3.875	.....
E. TEX. REFINERS' QUOTATIONS		
No. 1 p.w.	(e)3.375	(e)3.375
N. LA. REFINERS' QUOTATIONS (For shipment to La. and Ark.)		
10-14 grav.	(e) $0.65–$0.70	(e) $0.65–$0.70
ARK. REFINER'S QUOTATIONS (F.o.b. Ark. plant of one refiner, for shipment to Ark. and La.)		
No. 1	3.875	3.875
No. 2	3.625	3.625
28-32 zero fuel	3.50	3.50
Tractor Fuel	(j)4.25	(j)4.25

Prices Effective	Feb. 5	Jan. 29
CALIFORNIA		
San Joaquin Valley:		
Heavy fuel	$0.55 –$0.75	$0.55 –$0.75
Light fuel	$0.75 –$0.85	$0.75 –$0.85
Diesel fuel (per gal.)	2.75 – 4.00	2.75 – 4.00
Stove dist. (per gal.)	3.00 – 5.00	3.00 – 5.00
Los Angeles:		
Heavy fuel	$0.45 –$0.65	$0.45 –$0.65
Light fuel	$0.55 –$0.70	$0.60 –$0.75
Diesel fuel (per gal.)	2.25 – 4.00	2.50 – 4.00
Stove dist. (per gal.)	2.25 – 5.00	2.50 – 5.00
San Francisco:		
Heavy fuel	$0.80	$0.80
Light fuel	$0.90	$0.90
Diesel fuel (per gal.)	4.50	4.50
Stove dist. (per gal.)	5.50	5.50

Note: All above heavy fuels meet Pacific specification 400: light fuel, spec. 300; Diesel fuels, spec. 200; and stove distillate, spec. 100.

Neutral Oils

WESTERN PENNA. REFINERS' QUOTATIONS

Viscous Neutrals No. 3 col. (Viscosity at 70° F.) 200 Vis. (180 at 100°) 420-425 fl.		
0 p.t.	(e)31.50	(e)32.50
10 p.t.	(e)30.50	(e)31.50
15 p.t.	(e)29.50	(e)30.50
25 p.t.	28.00 –30.00	29.00 –32.00
150 Vis. (143 at 100) 400-405 fl.		
0 p.t.	(e)29.50	(e)30.50
10 p.t.	(e)28.50	(e)29.50
15 p.t.	(e)27.50	(e)28.50
25 p.t.	26.00 –28.00	27.00 –28.00

SOUTH TEXAS

Vis. Color		
Pale Oils: (*Vis. at 100°F*)		
100 No. 1½-2½	5.75 – 6.00	5.75 – 6.00
200 No. 2-3	7.50 – 7.75	7.50 – 7.75
300 No. 2-3	8.00 – 8.25	8.00 – 8.25
500 No. 2½-3½	9.00 – 9.25	9.00 – 9.25
750 No. 3-4	9.50 – 9.75	9.50 – 9.75
1200 No. 3-4	9.875–10.50	9.875–10.50
2000 No. 4	10.00 –10.75	10.00 –10.75
Red Oils:		
200 No. 5-6	7.50 – 7.75	7.50 – 7.75
300 No. 5-6	8.00 – 8.25	8.00 – 8.25
500 No. 5-6	9.00 – 9.25	9.00 – 9.25
750 No. 5-6	9.50 – 9.75	9.50 – 9.75
1200 No. 5-6	9.875–10.50	9.875–10.50
2000 No. 5-6	10.00 –10.75	10.00 –10.75

MID-CONTINENT (Vis. at 100° F.; F.o.b. Tulsa)

Pale Oils: (0 to 10 P.P.) Vis. Color		
60-85—No. 2	6.50 – 7.50	6.50 – 7.50
86-110—No. 2	6.75 – 8.00	6.75 – 8.00
150—No. 3	12.25 –13.75	12.25 –13.75
180—No. 3	13.00 –14.00	13.00 –14.00
200—No. 3	13.50 –14.50	13.50 –14.50
250—No. 3	14.50 –16.00	14.50 –16.00
280—No. 3	15.50 –17.25	15.50 –17.25
300—No. 3	17.50 –17.75	17.50 –17.75
Red Oils:		
180—No. 5	(e)13.50	(e)13.50
200—No. 5	13.00 –14.00	13.00 –14.00
280—No. 5	14.75 –16.00	14.75 –16.00
300—No. 5	(h) 16.25–16.75	(h) 16.25–16.75

Note: Viscous Neutrals, 15-25 p.p. generally are quoted 0.5c under 0-10 p.p. oils. Non-viscous oils, 15-25 p.p., generally are quoted 0.25c under 0-10 p.p. oils.

CHICAGO (Vis. at 100° F)

(e) Pale Oils 0 to 10 p.p. Vis. Color		
60-85—No. 2	8.25	8.25
86-110—No. 2	8.50	8.50
150—No. 3	12.75	12.75
180—No. 3	14.00	14.00
200—No. 3	14.50	14.50
250—No. 3	15.50	15.50

Prices Effective	Feb. 5	Jan. 29
CHICAGO (Continued)		
(e) Red Oils:		
180—No. 5	13.50	13.50
200—No. 5	14.00	14.00
250—No. 5	14.50	14.50
280—No. 5	15.50	15.50
300—No. 5	17.25	17.25

Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p., 0.25c lower. To obtain delivered prices in Chicago, add 0.25c per gal.

Cylinder Stocks

MID-CONTINENT (F.o.b. Tulsa)

Bright Stocks:		
190-200 Vis. at 210° D.	(e)29.00	(e)29.0
150-160 Vis. at 210° D:		
0 to 10 p.p.	24.00 –25.00	24.00 –25.00
10 to 25 p.p.	23.00 –24.50	23.00 –24.50
25 to 40 p.p.	(h)24.00	(h)24.00
150-160 vis. at 210° E.	22.00 –24.00	22.00 –24.00
120 Vis. at 210° D:		
0 to 10 p.p.	22.75 –24.00	22.75 –24.00
25 to 40 p.p.	(e)22.50	(e)22.50
600 S.R. Dark Green	(e)8.00	(e)8.00
600 S.R. Olive Green	9.00 – 9.50	9.00 – 9.50
631 S.R.	(e)21.00	(e)21.00
Black Oil	(h) 4.00 –5.50	(h) 4.00 –5.50

(e) CHICAGO (Viscosity at 210°)

Unfiltered Steam Refined:		
140	10.00	10.00
160	11.00	11.00
200	12.00	12.00
Bright stocks, 160 vis. at 210, No. 8 color:		
0 to 10 p.p.	24.75	24.75
15 to 25 p.p.	23.75	23.75
30 to 40 p.p.	23.25	23.25
F filtered Cyl. Stock	14.50	14.50

Note: To obtain prices delivered in Chicago, add 0.25c per gal.

WESTERN PENNA. REFINERS' QUOTATIONS

600 S.R. filterable	16.00 –17.00	(h) 16.00–17.00
650 S.R.	19.00 –20.00	19.00 –21.00
600 fl.	(h) 20.00–21.00	(h) 20.00–21.00
630 fl.	(h)24.00	24.00
Brt. stk, 145-155 vis. at 210°, 540-550 fl., No. 8 col.		
10 p.t.	(e)29.50	(e)30.50
15 p.t.	(e)28.50	(e)29.50
25 p.t.	27.00 –29.00	28.00 –29.00

Petrolatums

WESTERN PENNA. (Bbls., carloads; tank cars, 0.5c per lb. less.)

Snow White	6.875– 7.625	7.625– 8.00
Lily White	5.875– 6.625	6.625– 7.00
Cream White	4.875– 5.625	5.625– 6.00
Light Amber	3.625– 4.125	3.875– 4.25
Amber	3.375– 3.875	3.625– 4.00
Red	3.375– 3.50	3.50

Wax

WESTERN PENNA. REFINERS' QUOTATIONS

In bbls., carloads, N. Y.		
122-124 A.m.p., w.c. scale	(h) 5.50 –5.75	(h) 5.50 –5.75
124-126 A.m.p., w.c. scale	5.50 – 5.75	5.50 – 5.625

OKLAHOMA Refiners' Quotations & Sales Prices. (In bbls. or burlap bags, carloads)

124-126 A.m.p., w.c. scale	(h)6.00	(h)6.00

CHICAGO QUOTATIONS (FOB Chicago district refinery of one refiner, in bags or slabs loose, carloads. Melting points are E.M.P. (A.S.T.M.) methods; add 3° F. to convert into A.m.p.)

Fully refined:		
122-124 (bags only)	6.10	6.10
125-127	6.10	6.10
127-129	6.35	6.35
130-132	6.65	6.65
132-134	6.90	6.90
135-137	7.65	7.65

(a) Prices FOB. Central Michigan refinery group basis, for shipment within Mich. Shipments may originate at plants outside Central group. (b) For shipment to Texas and New Mexico destinations. (c) Excluding Detroit shipment. (e) One refiner quoting. (f) No quotations reported. (h) Two refiners quoting. (j) For shipment to Ark. points only. (k) Two suppliers quoting. (l) Quotations. (m) Sales. (n) No quotations reported.

TANK WAGON MARKETS

Tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include* 1c *federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes, where levied, are indicated in footnotes. Dealer discounts are shown in footnotes; for commercial consumer discounts, see N.P.N. for March 29, April 12, April 19 and June 7, 1939, or write to N.P.N. These prices in effect Feb. 5, 1940 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. New Jersey

Esso
(*Regular Grade*)

	Consumer Tank Car	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
*Atlantic City, N. J.	7.6	8.7	4	8.1
*Newark, N. J.	7.6	8.7	4	8.1
Annapolis, Md.	8.35	9.35	5	9.50
Baltimore, Md.	7.75	8.75	5	8.5
Cumberland, Md.	9.15	10.15	5	10
Washington, D. C.	8.0	9	3	9.5
Danville, Va.	8.95	11.45	6	11.5
Norfolk, Va.	7.75	10.25	6	11
Petersburg, Va.	8.05	10.55	6	11.7
Richmond, Va.	8.05	10.55	6	11
Roanoke, Va.	9.25	11.75	6	11.5
Charleston, W. Va.	8.55	11.05	6	12.6
Parkersburg, W. Va.	7.85	9.85	6	11.2
Wheeling, W. Va.	8.85	10.75	6	12.2
Charlotte, N. C.	9.9	11.4	7	11.8
Hickory, N. C.	10.45	11.95	7	12.3
Mt. Airy, N. C.	10.3	11.8	7	12.2
Raleigh, N. C.	9.65	11.15	7	11.5
Salisbury, N. C.	9.95	11.45	7	11.9
Charleston, S. C.	7.75	10.25	7	6.5
Columbia, S. C.	8.6	11.1	7	11.5
Spartanburg, S. C.	9.3	11.8	7	12.2

Discount to undivided dealers on Esso: thru territory, except New Jersey points, which see in "Note" below: Dealer t.w. price less 0.5c per gal.

*Effective Sept. 14, 1939, S. O. New Jersey posted a minimum retail resale price of 11.9c thru New Jersey.

Note: While the above posted prices continue at Atlantic City and Newark, N. J., dealers will pay a net price of 8.6c per gal. for Esso. Dealers having pumps marked only, Esso, Esso Extra and "Standard" White gasoline will pay 8.1c per gal. for Esso.

Kerosine Discount: 1c off t.w. price for 25 gals., or more, under contract thru territory (Baltimore City contract not necessary) except no discount in state of New Jersey.

Socony-Vacuum Oil Co., Inc.

(S. O. New York Division)

Socony Mobilgas
(*Regular Grade*)

	Consumer Tank Car	"Split" Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Metropolitan N. Y. City: Boroughs of Manhattan, Bronx and Brooklyn (Kings and Queens)	7.7	9.2	*5	8.50
Borough of Richmond (Staten Is.)	7.7	9.2	*5	8.50
Albany, N. Y.	7.6	9.2	5	8.30
Binghamton, N. Y.	8.9	9.5	5	9.30
Buffalo, N. Y.	8.1	9.5	5	8.1
Jamestown, N. Y.	7.7	9.5	5	8.0
Plattsburg, N. Y.	8.1	10.6	5	8.90
Rochester, N. Y.	8.3	10	5	8.6
Syracuse, N. Y.	8.2	9.5	5	8.80
Bridgeport, Conn.	7.8	8.8	4	8.10
Danbury, Conn.	8.3	9.6	4	9.00
Hartford, Conn.	7.9	9.3	4	8.40
New Haven, Conn.	7.8	8.8	4	8.50
Bangor, Me.	7.9	10	5	8.40
Portland, Me.	7.6	9.4	5	8.50
Boston, Mass.	7.5	9	4	8.50
Concord, N. H.	8.4	10.7	5	9.10
Lancaster, N. H.	9.2	11.7	5	9.90
Manchester, N. H.	8.3	10.3	5	8.90
Providence, R. I.	7.5	9.3	4	8.50
Burlington, Vt.	8.1	10.4	5	8.70
Rutland, Vt.	8.5	10.5	5	8.90

*Plus 2% city sales tax computed at time of each sale.

Discount to undivided dealers: 0.5c less than "split" dealer t.w.

Atlantic Refining

Atlantic White Flash Gasoline
(*Regular Grade*)

	Commercial Tank Car	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Philadelphia, Pa.	7.5	9	5	10
Pittsburgh	8	9.5	5	10.5
Allentown	8	9.5	5	10.5
Erie	8	9.5	5	10
Scranton	7.5	10	5	10.5
Altoona	8	10	5	10.5
Emporium	8	10	5	10.5
Indiana	8	10	5	10.5
Uniontown	8	10	5	10.5
Harrisburg	8	9.5	5	10.5
Williamsport	8.5	10	5	10.5
Dover, Del.	...	8.5	5	10.5
Wilmington	...	9	5	9.75
Boston, Mass.	...	9	4	8.5
Springfield, Mass.	...	9	4	9.0
Worcester, Mass.	...	9.5	4	8.0
Fall River, Mass.	...	8.5	4	8.5
Hartford, Conn.	...	9.3	4	8.5
New Haven, Conn.	...	8.8	4	8.5
Providence, R. I.	...	9.3	4	8.5
Atlantic City, N. J.	...	8.6	4	8.1
Camden, N. J.	...	8.6	4	8.1
Trenton, N. J.	...	8.6	4	8.1
Annapolis, Md.	...	9.35	5	9.5
Baltimore, Md.	...	8.75	5	8.5
Hagerstown, Md.	...	9.85	5	10
Richmond, Va.	...	10.55	6	10.7
Wilmington, N. C.	...	10.35	7	10.8
Brunswick, Ga.	...	10	7	*11
Jacksonville, Fla.	...	9	8	10

*Georgia has kerosine tax of 1c per gal., not included in above price.

Discount to undivided dealers: Dealer t.w. less 0.5c per gal. except in Georgia and Florida, dealer t.w. and undivided dealer price is same.

Discounts: At Scranton, Pa., 1c per gal. voluntary discount allowed to dealers only, effective July 8, 1939.

Kerosine discount: Thru Pennsylvania and Delaware, 2c per gal. off t.w. price on t.w. deliveries of 25 gals. or more at one time, effective since Oct. 29, 1936.

S. O. Ohio

Sohio X-70 Gasoline
(Regular Grade)

	Consumer T.W.	†Divided Dlr.	‡S.S.	Gasoline Taxes	Kerosine T.W.
Ohio, Statewide	10.5	9.5	12.5	5	*12
Akron	10.5	8.5	10.5	5	*8.5
Cincinnati	10.5	9	11.5	5	*12
Cleveland	10.5	8.5	11	5	*12
Columbus	10.5	9	11.5	5	*12
Dayton	10.5	9	11.5	5	*12
Marietta	10.5	9	11.5	5	*12
Portsmouth	10.5	9.5	12.5	5	*12
Toledo	10.5	8.5	11	5	*12
Youngstown	10.5	9	11.5	5	*11.5

Renown Gasoline
(Third Grade)

Ohio, Statewide	10.5	9.5	12.5	5	....
Akron	10.5	8.5	10.5	5	....
Cincinnati	10.5	9	11.5	5	....
Cleveland	10.5	8.5	11	5	....
Columbus	10.5	9	11.5	5	....
Dayton	10.5	9	11.5	5	....
Marietta	10.5	9	11.5	5	....
Portsmouth	10.5	9.5	12.5	5	....
Toledo	10.5	8.5	11	5	....
Youngstown	10.5	9	11.5	5	....

Note: Prices at other Ohio points may be obtained by writing NPN.

*Ohio has kerosine tax of 1c per gal., not included in above prices.

†This price also to authorized agents, exclusive of 0.5c rental.

‡Prices are at company-operated service stations.

Discount to undivided dealers: 0.5c less than divided dealer t.w.

S. O. Kentucky

Crown Gasoline
(*Regular Grade*)

	Consumer T.W.	Net Dlr.	Gasoline Taxes	Kerosine T.W.
Covington, Ky.	9	9	6	9.5
Lexington, Ky.	10.5	10.5	6	10
Louisville, Ky.	9.5	9.5	6	9
Paducah, Ky.	9.5	9.5	6	9
Jackson, Miss.	9	9	7	*9.5
Vicksburg, Miss.	9.5	9.5	7	*9
Birmingham, Ala.	10.5	10.5	*8	9
Mobile, Ala.	9.5	9.5	*9	8
Montgomery, Ala.	10.5	10.5	*9	*10
Atlanta, Ga.	10	10	7	*9
Augusta, Ga.	10.5	10.5	7	*9
Macon, Ga.	9.5	9.5	7	*9.5
Savannah, Ga.	9.5	9.5	7	*8
Jacksonville, Fla.	9	9	8	8
Miami, Fla.	9	9	8	8
Pensacola, Fla.	9.5	9.5	*9	8.5
Tampa, Fla.	13	10	8	8

Standard or Kyso Gasoline
(*Third Grade*)

Covington, Ky.	8	8	6	....
Lexington, Ky.	9.5	9.5	6	....
Louisville, Ky.	7.5	7.5	6	....
Paducah, Ky.	8	8	6	....
Jackson, Miss.	8	8	7	....
Vicksburg, Miss.	8.5	8.5	7	....
Birmingham, Ala.	8	8	*8	....
Mobile, Ala.	7.5	7.5	*9	....
Montgomery, Ala.	9	9	*9	....
Atlanta, Ga.	6.5	6.5	7	....
Augusta, Ga.	9.5	9.5	7	....
Macon, Ga.	8.5	8.5	7	....
Savannah, Ga.	8	8	7	....
Jacksonville, Fla.	8	8	8	....
Miami, Fla.	8	8	8	....
Pensacola, Fla.	8	8	*9	....
Tampa, Fla.	11.5	9	8	....

Temporary discounts to tank wagon consumers at Tampa: on Crown gasoline, 3c per gal. below consumer t.w. price; on Standard, 2.5c.

**Taxes*: In the tax column is included these city and county gasoline taxes at the following points: Mobile, 2c city; Birmingham, 1c city; Montgomery 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery, Ala. have kerosine taxes of 1c per gal., and Mississippi 0.5c, not included in above prices.

**Standard Gasoline, a leaded third-grade, is sold in Kentucky, Alabama, Georgia and Florida; Kyso Gasoline, an unleaded third-grade, is sold in Mississippi.

S. O. Indiana

Red Crown (*Regular Grade*)
Stanolind (*Third Grade*)
Red Dealer Prices

	Crown Cons. T.W.	Red Crown	Stanolind	Gasoline Taxes	Kerosine T.W.
Chicago, Ill.	11.1	9.1	6.9	4	10
Decatur, Ill.	11.1	8.1	6	4	8.5
Joliet, Ill.	11.1	9.6	7.4	4	10
Peoria, Ill.	11.1	8.7	8.1	4	10
Quincy, Ill.	10.9	9.4	8.5	4	9.8
Indianapolis, Ind.	11.8	9.3	8.4	5	*10
Evansville, Ind.	11.6	10.1	9.4	5	*10.5
South Bend, Ind.	11.8	10.3	7.3	5	*10
Detroit, Mich.	9.6	8.1	7.6	4	7.6
Grand Rapids, Mich.	9.9	7.7	7.2	4	9.7
Saginaw, Mich.	10.8	9.3	8.6	4	9.3
Green Bay, Wis.	11.9	10.4	9.9	5	10
Milwaukee, Wis.	11.3	9.8	9.3	5	10.2
La Crosse, Wis.	11.5	10	9.5	5	10.4
Minneapolis-St. Paul	11.5	9.5	9	5	10.4
Duluth, Minn.	11.9	10.4	9.9	5	10.8
Mankato, Minn.	11.5	10	9.5	5	10.4
Des Moines, Ia.	10.9	8.4	7.4	4	*9.8
Davenport, Ia.	11.1	9.6	7.5	4	*10
Mason City, Ia.	11.3	9.8	6.9	4	*10.2
St. Louis, Mo.	10.7	9.2	7.5	*4	8
Kansas City, Mo.	10.4	8.9	6.9	*4	8
St. Joseph, Mo.	10.4	8.0	7.5	*4	7.9
Fargo, N. D.	12.7	11.2	10.7	5	11.6
Huron, S. D.	12	10.5	10	5	10.9
Wichita, Kans.	9.3	7.1	5.5	4	7

*Taxes: in the tax column is included these city and state gasoline taxes at following points: Kansas City, St. Joseph and St. Louis, 1c city tax. Kerosine taxes: Indiana has 4c, Iowa 3c per gal. state tax, not included in above prices.

S. O. Nebraska

Standard Red Crown Gasoline
(*Regular Grade*)

	T.W.	Dealer	Gasoline Taxes	Kerosine T.W.
Omaha, Neb.	10.5	6.9	6	9.8
McCook	10.5	7.9	6	9
Norfolk	10.5	8.4	6	9.5
North Platte	11.8	8.9	6	10
Scottsbluff	12.5	9.5	6	11.4

S. O. Louisiana

Esso
(*Regular Grade*)

	Consumer Tank Car	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Little Rock, Ark.	7.75	10.25	7.5	10
Alexandria, La.	7.25	9.75	8	*11.5
Baton Rouge, La.	7.25	9.75	8	*9.5
New Orleans, La.	7.25	9.75	8	*9
Lake Charles, La.	7.25	9.75	8	*11.5
Shreveport, La.	6	8.5	8	*10
Lafayette, La.	7.5	10	8	*10
Bristol, Tenn.	10.25	9.75	8	13
Chattanooga, Tenn.	9.5	12	8	12
Knoxville, Tenn.	10	12.5	8	13
Memphis, Tenn.	8	10.5	8	11
Nashville, Tenn.	9	9.5	8	11

*Taxes: Louisiana has kerosine tax of 1c per gal.; in addition New Orleans has 1c parish tax, none of which are included in above prices.

Price basis to dealers: Undivided dealers get dealer price, less 0.5c.

Above prices include these inspection fees on both gasoline and kerosine unless otherwise specified, per gallon, figured on basis of 50 gallons per barrel:
Alabama, 1/40c on gasoline, 1/2c on kerosine; Arkansas, 1/5c per gal. in a single barrel, 1/20c per gal. in bulk; Florida, 1/8c; Illinois, 3/100c; Indiana, 1/5c per gal. in lots up to 25 bbls.; 2/25c per gal. in lots of 25 bbls. or more; Kansas, 1/50c, (3/50c can be charged to meet inspection department expenses); Louisiana, 1/32c; Minnesota, 1/25c; Missouri, 3/100c; Nebraska, 3/100c; Nevada, gasoline, 1/20c; North Carolina, 1/4c; North Dakota, 1/20c; Oklahoma, 2/25c per gal. lots of more than 50, in bbls., 1/5c in lots less than 50 bbls.; South Carolina, 1/8c; South Dakota, 1/10c; Tennessee, 2/5c; and Wisconsin, 3/100c.
Kerosine inspection fee only: Iowa, 3/50c; Michigan, 1/5c per gal.

TANK WAGON MARKETS

Tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes, where levied, are indicated in footnotes. Dealer discounts are shown in footnotes; for commercial consumer discounts, see NPN for March 29, April 12, April 19 and June 7, 1939, or write to N.P.N. These prices in effect Feb. 5, 1940 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

Humble Oil & Refining Co.

Humble Motor Fuel
(*Regular Grade*)

	*T.W.	S.S.	Gasoline Taxes	Kerosine T.W.
Dallas, Tex	7	11	5	7
Ft. Worth, Tex	7	11	5	7
Houston, Tex	8 5	12.5	5	8
San Antonio, Tex	8	12	5	8

Thriftane
(Leaded, 67 Octane, Purple Gasoline)

Dallas	5.5	9	5
Ft. Worth	5 5	9	5
Houston	7	10.5	5
San Antonio	6	10	5

*These tank wagon prices apply to all classes of dealers and consumers.

Continental Oil

Conoco Bronz-z-z (Regular Grade)

	††T.W.	Dealer	Gasoline Taxes	Kerosine ‡T.W.
Denver, Col	10 5	..	5	11.5
Grand Junction, Col	12.5	..	5	15
Pueblo, Col	10	..	5	9
Casper, Wyo	12.5	..	5	11.5
Cheyenne, Wyo	10 5	..	5	13
Billings, Mont	12.5	..	6	13
Butte, Mont	14	..	6	15.5
Great Falls, Mont	13 5	..	6	15.5
Helena, Mont	14 5	..	6	15.5
Salt Lake City, Utah	10 5	10 5	5	16
Boise, Ida	**15 1	**15 1	6	18
Twin Falls, Ida	**15 1	**15 1	6	18
Albuquerque, N. M	10 5	10 5	†6 5	10
Roswell, N. M	9 5	9 5	†6.5	8
Santa Fe, N. M	10 5	10 5	*7	10
Ft. Smith, Ark	9 5	..	5	7 5
Little Rock, Ark	9 75	..	7 5	8
Texarkana, Ark	8	..	5	7
Muskogee, Okla	8	7	5	7
Oklahoma City, Okla	6	..	5	6 5
Tulsa, Okla	6	..	5	7

Demand Gasoline
(Third Grade)

Denver, Col	9 5	..	5	....
Grand Junction, Col	11 5	..	5	....
Pueblo, Col	9	..	5	....
Casper, Wyo	11 5	..	5	....
Cheyenne, Wyo	9 5	..	5	....
Billings, Mont	11 5	..	6	....
Butte, Mont	11	..	6	....
Great Falls, Mont	11 5	..	6	....
Helena, Mont	13 5	..	6	....
Salt Lake City, Utah	9 5	9 5	5	....
Boise, Ida	**14 1	**14 1	6	....
Twin Falls, Ida	**14 1	**14 1	6	....
Albuquerque, N. M	8 5	8 5	†6 5	....
Roswell, N. M	8 5	8 5	†6.5	....
Santa Fe, N. M	9 5	9 5	*7	....
Ft. Smith, Ark	7	..	5	....
Little Rock, Ark	7 5	..	7 5	....
Texarkana, Ark	6	..	5	....
Muskogee, Okla	7	6	5	....
Oklahoma City, Okla	5 5	..	5	....
Tulsa, Okla	5	..	5	....

†Includes city tax of 0.5c.
*Includes 1c city tax.
‡Prices are in t.w. deliveries to consumers and dealers.
**Prices include 0.1c to cover 1-mill tax for toll bridges.
††T.w. prices represent prices to consumer; also to dealers at points where no dealer prices are shown.

S. O. California

Standard Gasoline
(*Regular Grade*)

	T.W.	S.S.	Gasoline Taxes	Kerosine T.W.
San Francisco, Cal	13.5	14.5	4	11.5
Los Angeles, Cal	13	14	4	10
Fresno, Cal	14.5	15.5	4	12.5
Phoenix, Ariz	14	15	6	*12.5
Reno, Nev	15.5	16.5	5	13.5
Portland, Ore	14	15	6	13.5
Seattle, Wash	14	15	6	‡13.5
Spokane, Wash	15.5	16.5	6	‡16.5
Tacoma, Wash	14	15	6	‡13.5

Flight Gasoline
(*Third Grade*)

San Francisco, Cal	12	13	4	....
Los Angeles, Cal	11.5	12.5	4	....
Fresno, Cal	13	14	4	....
Reno, Nev	14	15	5	....
Phoenix, Ariz	11	12	6	....
Portland, Ore	12.5	13.5	6	....
Seattle, Wash	12.5	13.5	6	....
Spokane, Wash	13	14	6	....
Tacoma, Wash	12.5	13.5	6	....

*Arizona has kerosine tax of 5c per gal. not included in above prices.

‡Washington has 0.25c per gal. tax on kerosine sales not included in above prices.

Discount to 100% dealers, thru territory, off posted t.w. prices, on gasolines: on Standard Ethyl, Standard Gasoline and Stanavo Aviation, 3c per gal.; on Flight gasoline, 2c.

Canada

PRICES OF IMPERIAL OIL LTD.
Per Imperial Gallon, which is 1.2 U. S. Gallons
3-Star Imperial Gasoline
(*Regular Grade*)

	T.W.	Gasoline Taxes	Kerosine T.W.
Hamilton, Ont	15 5	8	16
Toronto, Ont	15 5	8	16
Brandon, Man	21	7	22
Winnipeg, Man	19 5	7	20.5
Regina, Sask	18.5	7	20.5
Saskatoon, Sask	21	7	23
Edmonton, Alta	18 9	7	20 9
Calgary, Alta	16	7	18
Vancouver, B. C	16	7	23
Montreal, Que	15 5	8	16
St. John, N. B	14.5	10	18.5
Halifax, N. S	14.5	10	18.5

Discounts to undivided dealers, 1c off t.w. price, except Maritime Provinces where undivided dealers pay t.w. price. Divided dealers pay t.w. price, thru territory.

Aviation Gasoline

Following are tank car, tank wagon or dealer prices, as indicated, of aviation gasoline in several marketing territories.

S. O. OHIO
Thru Ohio

	Esso Aviation Consumer T.W.	Gasoline Taxes
74 octane	16	5
80 octane	17	5
87 octane	18	5

Discounts: For delivery on contract to hangar operators and resellers: 2c below consumer posted t.w. price, shown above.

S. O. INDIANA
Stanavo Aviation Gasoline
73 Octane Number

Chicago, Ill	14 9	
Detroit, Mich	16 5	4
Milwaukee, Wis	15 1	5
Minneapolis, Minn	15 3	5
St. Louis, Mo	14.5	3
Kansas City, Mo	14 2	*4
Fargo, N. D	16 5	5
Huron, S. D	15 8	5

*Includes 1c city tax.

HUMBLE OIL & REFINING CO.
74 Octane Aviation Gasoline, Clear

	Tank Car
FOB Baytown, Tex	8 5

CONTINENTAL OIL CO.
Conoco Special Gasoline

	T.W. & Dealer Price	Gasoline Taxes
Denver, Colo	15	5
Cheyenne, Wyo	15 5	5
Helena, Mont	22 5	6
Salt Lake City, Utah	18	5
Albuquerque, N. M	14	*6.5

*Includes city tax of 0.5c.

S. O. CALIFORNIA
Stanavo Aviation Gasoline

	T.W.	
Phoenix, Ariz	17 5	6
Los Angeles, Cal	15	4
San Francisco, Cal	15 5	4
Reno, Nev	17 5	5
Portland, Ore	16	6
Seattle, Wash	16	6
Spokane, Wash	19	6

Note: For discounts, etc., see note under Standard and Flight gasoline above.

Naphtha (In Tank Wagon)

S. O. NEW JERSEY

	Posted Tank Wagon Prices Mineral Spirits	V.M.&P.
Newark, N. J	11.5	15.5
Baltimore, Md	15.5	....
Washington, D. C	15	....

Discounts: Buyers taking following quantities at one time, get these discounts. Newark, 2c per gal. on 200 gals. or more; less than 200 gals., 0.5c higher price. Baltimore 2c off on 25 to 100 gals. and 3c on over 100 gals. Washington, 2c off to contract buyers.

SOCONY-VACUUM OIL CO.

Buffalo, N. Y	11.5	12.5
*New York City	9 5	10.5
Rochester, N. Y	12.5	12.5
Syracuse, N. Y	12.5	15
Boston, Mass	11.5	11.5
Bridgeport, Conn	11.5	12
Hartford, Conn	11	11.5
Providence, R. I	11.5	12.5

*Prices apply to consumers only in quantities over 1,000 gals. annually. For quantities under 1,000 gals. annually, add 0.5c per gal.

ATLANTIC REFINING CO.

Philadelphia, Pa	12	14.5
Lancaster, Pa	13.5	16
Pittsburgh, Pa	14.5	14.5

Note: Prices for Mineral Spirits also apply to Stoddard Solvent; and prices for V.M.&P. Naphtha apply also to Light Cleaners Naphtha.

Discounts: Philadelphia, 200 gals. or more at one time, 2c per gal. less. Lancaster, contract buyers taking 1,000 gals. or more per year, one drum up, 2c per gal. less; non-contract buyers, 200 gals. or more at one time, 2c per gal. less. Pittsburgh, 500 gals. or more at one time, 2c.

S. O. OHIO

	S.R. Solvent	V.M.&P. Naphtha
Thru Ohio	12.5	13

Note: V.M.&P. naphtha prices also apply on Dry Cleaners naphtha, special Varnolene, Varnolene and Sohio Solvent. Discounts to contract consumers off t.w. price: 300 to 999 gals., 0.5c; 1,000 to 2,499 gals., 0.75c; 2,500 to 4,999 gals., 1c; 5,000 or more gals., 1.5c.

S. O. INDIANA
(Prices include state and federal taxes)

	Oleum Spirits	V.M.&P. Naphtha	Stanisol
Chicago, Ill	16.7	17	16.4
Detroit, Mich	19.7	18.7	20.2
Kansas City, Mo	14.4	15.4	14.9
St. Louis, Mo	14.7	15.7	13.4
Milwaukee, Wis	19.3	20.3	19.8
Minneapolis, Minn	19.5	20.5	18.2

Note: All prices, with exception of Missouri points, include state tax. Prices shown are base prices, before discounts.

Naphtha (In Tank Cars)

In Tank Cars (F. o. b. refinery or seaboard terminal except Ohio, delivered price.)

	V.M.&P. Naphtha	Mineral Spirits
Baltimore	9.50	8.50
New York Harbor	9 9 5	8.75-9
Philadelphia district	10	8.25-9
Boston	9 5	9 5
Providence	9 5	9 5
†Ohio points, delivered	8.75	*8.25

*This is on rubber solvent.
†Ohio prices are those of S. O. Ohio. Its prices for D.C. naphtha, special Varnolene, Varnolene and Sohio Solvent are same as for V.M.&P.

Price Changes

Dates and amounts of changes. See table for full current prices.

Socony-Vacuum—Socony Mobilgas:

Burlington dealer t. w. up 0.4c, Jan. 31.

Kerosine:

Buffalo t.w. up 0.5c; Jamestown t. w. up 0.3c and Rochester t. w. up 0.2c, Feb. 5.

S. O. Kentucky—Kerosine:

Atlanta and Augusta t. w. up 2c, Jan. 29.

S. O. Nebraska—Red Crown Gasoline:

Omaha dealer price cut 0.6c, Feb. 3.

Fuel Oil

S. O. New Jersey—No. 2:

North Carolina t. w. up 0.25c, Jan. 29.

Socony-Vacuum—Nos. 2 and 4:

Rochester t. w. up 0.2c, Feb. 5.

Coming Meetings

Kansas Oil Men's Assn., 26th Annual Convention, Broadview Hotel, Wichita, Kansas, Feb. 12-13.

American Institute of Mining and Metallurgical Engineers, New York, Feb. 12 to 15.

Kentucky Petroleum Marketers Assn., 14th annual meeting and convention. Brown Hotel, Louisville, Ky., Feb. 14, 15.

Assn. of Highway Officials of North Atlantic States, Hotel Ambassador, Atlantic City, N. J., Feb. 14-16.

Missouri Independent Oil Jobbers Assn., Annual Convention, Elms Hotel, Excelsior Springs, Mo., Feb. 21 and 22.

National Dixie Distributors, Milwaukee, Wis., Feb. 21, 22.

Wisconsin Petroleum Assn., annual meeting and equipment show, Schroeder Hotel, Milwaukee, Feb. 21, 22, 23.

Ohio County Petroleum Industry Committee Officials, State Conference, Deshler-Wallick Hotel, Columbus, Ohio, Feb. 26.

Liquified Petroleum Gas Assn., Cincinnati, Ohio, Feb. 26-28.

Ohio Petroleum Marketers Assn., Deshler-Wallick Hotel, Columbus, O., Feb. 27, 28 and 29.

Illinois Petroleum Marketers Assn., annual convention, Hotel Pere Marquette, Peoria, Ill., Feb. 27-29.

Iowa Independent Oil Jobbers' Assn., annual meeting, Hotel Fort Des Moines, Des Moines, March 5-7.

Indiana Independent Petroleum Assn., Spring Convention, Hotel Severin, Indianapolis, Ind., March 6, 7.

American Society for Testing Materials, Statler Hotel, Detroit, Mich., March 4-8.

Retail Petroleum Dealers Assn., Inc., Los Angeles, Calif., March 6-8.

American Petroleum Institute, Mid-Continent District, Division of Production, Wichita, Kan., March 14, 15.

Society of Automotive Engineers, National Aeronautic Meeting, Washington Hotel, Washington, D. C., March 14-15.

American Petroleum Institute, Pacific Coast District, Los Angeles, Calif., March 19.

Oil Trades Assn. of New York, Annual Meeting, Waldorf Astoria Hotel, New York, N. Y., March 21.

American Petroleum Institute, Southwestern District, Division of Production, Houston, Tex., March 28, 29.

Western Petroleum Refiners Assn., Annual Meeting, Allis Hotel, Wichita, Kans., March 31, April 1, 2.

Society of Automotive Engineers, National Transportation & Maintenance Meeting, Mellon Institute Auditorium, Pittsburgh, Pa., March 28-29.

American Chemical Society, Cincinnati, Ohio, April 8-12.

Armour Institute of Technology, Annual Midwest Power Conference, Palmer House, Chicago, Ill., April 9-10.

Society of Exploration Geophysicists, Annual Meeting, Stevens Hotel, Chicago, Ill., April 9-11.

Pennsylvania State College, 9th Petroleum and Natural Gas Conference, State College, Pa., April 26-27.

Petroleum Industry Electrical Assn., Dallas, Tex., May 1 to 3.

American Gas Assn., Natural Gas Section, Houston, Tex., May 6-10.

American Assn. of Petroleum Geologists, Stevens Hotel, Chicago, April 10, 11, 12.

American Petroleum Institute, Eastern District, Division of Production, Columbus, O., April 11, 12.

National Petroleum Assn., 37th semi-annual meeting, Hotel Cleveland, Cleveland, O., April 18, 19.

American Institute of Mining & Metallurgical Engineers, Open Hearth Conference, Pittsburgh, Pa., April 24-26.

American Institute of Chemical Engineers 32nd Semi-Annual Meeting, Statler Hotel, Buffalo, N. Y., May 13, 14 and 15.

Natural Gasoline Assn. of America, 19th annual convention, Hotel Tulsa, Tulsa, May 15, 16, 17.

International Petroleum Exposition and Congress, Tulsa, May 18-25.

American Petroleum Institute, 105th Mid-Year Meeting, Blackstone & Texas Hotels, Fort Worth, Tex., May 27-31.

Illinois-Indiana Petroleum Assn., Eighth Annual Petroleum Conference, Robinson, Ill., June 1.

Society of Automotive Engineers, Summer Meeting, The Greenbrier, White Sulphur Springs, W. Va., June 9-14.

American Society for Testing Materials, Chalfonte-Haddon Hall, Atlantic City, N. J., June 24-28.

National Lubricating Grease Institute, Annual Convention, Stevens Hotel, Chicago, Ill., Sept. 30, Oct. 1.

National Safety Congress & Exposition, Hotel Stevens, Chicago, Ill., Oct. 7-11.

Tanker Rates

(Approximate freight rates. To Continental ports, shillings per ton of 2240 lbs., British sterling: to U. S. ports cents per bbl.)

	Crude & /or Fuel		Refined Oil & / or Spirits	
	Last Paid	Owners Ask	Last Paid	Owners Ask
Gulf-U.K. Cont.(k)	(q)	(q)	(q)	(q)
Aruba-U.K./Cont.	(q)	(q)	(q)	(q)
Gulf-N. Atlantic(l) (not E. of N.Y.):				
Hvy. Crude & fuel, (10 to 19.9 gravity)	60c	59 to 61c	....	....
Light Crude, (30 Grav. or Lighter)	53c	53 to 55c	....	....
Gasoline	....	....	67c	66 to 68c
Kerosine	....	....	70c	69 to 71c
Light Fuel	....	....	(w) 73c	72 to 74c

WASHINGTON—More than $27,000,000 was spent in purchase of petroleum products for use on projects of the Works Progress Administration (WPA) from July, 1935 through September, 1939, according to WPA officials.

Group 3 Freight Rates

To Division Headquarters Points of Standard Oil Co. of Indiana

	Gasoline-Kerosine Cents per Cwt.	Gasoline-Kerosine Cents per gal. 6.6 lbs.	Distillate-Gas Oil-Fuel Oil Cents per Cwt.	Distillate-Gas Oil-Fuel Oil Cents per gal. 7.4 lbs.
Chicago, Ill.	40	2.640	32	2.368
Decatur, Ill.	39	2.574	31	2.294
Joliet, Ill.	40	2.640	32	2.368
Peoria, Ill.	39	2.574	31	2.294
Quincy, Ill.	36	2.376	29	2.146
Indianapolis, Ind.	48	3.168	39	2.886
Evansville, Ind.	46	3.036	37	2.738
South Bend, Ind.	49	3.234	**42	**3.108
Detroit, Mich.	64	4.224	51	3.774
Gd. Rapids, Mich.	61	4.026	50	3.700
Saginaw, Mich.	66	4.356	53	3.922
Green Bay, Wis.	51	3.366	41	3.034
Milwaukee, Wis.	43	2.838	34.5	2.553
LaCrosse, Wis.	46	3.036	37	2.738
Min'ap'ls-St. Paul	46	3.036	37	2.738
Duluth, Minn.	52	3.432	41.5	3.071
Mankato, Minn.	46	3.036	37	2.738
Des Moines, Ia.	36	2.376	29	2.146
Davenport, Ia.	39	2.574	31	2.294
Mason City, Ia.	42	2.772	33.5	2.479
St. Louis, Mo.	33	2.178	26.5	1.961
Kansas City, Mo.	28	1.848	22.5	1.665
St. Joseph, Mo.	28	1.848	22.5	1.665
Fargo, N. D.	63	4.158	50.5	3.737
Minot, N. D.	83	5.478	66.5	4.921
Huron, S. D.	53	3.498	42.5	3.145
Wichita				
From Ponca City	7.5	*0.495	7.5	†0.555
From Tulsa	12.5	*0.825	12.5	†0.925
From Cushing	11	*0.726	11	†0.814

*This rate also includes distillate rate at 6.6 lbs. per gal.

**This rate applies only to residual fuel and gas oil. Combination rate of 32c per cwt. at 7.4, Group 3 to Chicago, plus 9c per cwt. at 6.6, Chicago to South Bend, total of 2.962c per gal., applies to petroleum fuel oil distillate not suitable for illuminating purposes.

†This rate is exclusive of distillate which is based on 6.6 lbs. per gal. from Ponca City, Tulsa and Cushing, Okla., to Wichita. Includes only gas oil and fuel oil.

NOTE: There is no Group 3 rate to Wichita, Kans.

TANK WAGON MARKETS, HEATING OILS

Prices in Effect Feb. 5, 1940

Following are posted tank wagon prices of various grades of heating oil at the points shown in various territories. Prices are in cents per gallon.

S. O. NEW JERSEY	No. 1	No. 2	No. 4
Atlantic City, N. J.	8.1	7.1	7.1
Newark	8.1	7.1	7.1
Annapolis, Md.	....	7.00	....
Baltimore	7.50	7.00	6.50
Washington, D. C.	7.75	7.25	7.25
Norfolk, Va.	8	7	7
Petersburg	8	7	....
Richmond	8	7	7
Charlotte, N. C.	9.25	8.25	....
Hickory	....	8.5	....
Raleigh	9.25	8	....
Charleston, S. C.	8.25	6.75	....
Columbia	9.25	7.75	....
Spartanburg	9.95	8.45	....

SOCONY-VACUUM OIL CO. INC. (S. O. New York Division)	Nos. 2 & 3	No. 4
New York City	7.00	7.00
Albany, N. Y.	7.20	6.70
Rochester, N. Y.	7.70	7.70
Boston, Mass.	7.20	7.20
Bangor, Me.	7.60	7.60
Manchester, N. H.	7.00	7.00
Burlington, Vt.	7.90	7.90
Hartford, Conn.	7.30	7.30
New Haven, Conn.	7.20	7.20
Providence, R. I.	7.20	7.20

Note: Prices for No. 1 fuel in Socony-Vacuum territory same as for kerosine which see in tank wagon table for various cities; prices change with kerosine.

ATLANTIC REFINING Numbers	1	2	3	4	5	6
Phila., Pa.	8	7.00	7.00	7.00	4.25	3.50
Allentown, Pa.	8.5	7.00	7.00	7.00	....	....
Wilmington, Del.	7.75	7.00	7.00	7.00	....	....
Springfield, Mass.	9.0	7.7	....	....	....	....
Worcester, Mass.	8.0	7.0	....	7.0	....	....
Hartford, Conn.	8.5	7.3	....	7.3	....	....

S. O. OHIO	No. 1	No. 2	No. 3
Columbus Division and Cleveland	7.50	7.50	7.00
City of Lima	8.00	8.00	7.00
Rest of Ohio	8.00	8.00	7.50

Note: S. O. Ohio prices are for full compartment hose dumps, bucket dumps are 0.5c per gallon higher.

S. O. INDIANA Stanolex Fuel and Furnace Oils	No. 1 Fuel	Stanolex Furnace
Chicago	(a) 6.75	6.75
Indianapolis	....	(b) 7.8
Detroit	....	6.6
Milwaukee	8.4	7.7
Minneapolis	7.8	7.8
St. Louis	7.7	(c) 6.7
Kansas City	6.8	6.8

(a) For 400 gals. and over; 150 to 399 gals., 7.25c; 1 to 149 gals., 8.25c.

(b) Excluding 4c state tax.

(c) For 400 gals. & over; 100 to 399 gals., 7c; 1 to 99 gals., 8c.

Note: Small-lot deliveries of light fuel oils range up to 2c higher than above quotations.

SEABOARD MARKETS, EXPORT AND COASTWISE

All prices on this page are publisher's opinion of open market quotations or sales, for spot shipment (10 to 15 days). In cargo markets, spot shipment is 90 days. Prices in cents per gallon, except heavy fuel oil in dollars per barrel, in tank car lots, f.o.b. refineries or seaboard terminals in districts designated, unless otherwise noted. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude. Unless otherwise noted, gasoline octane ratings are determined by C.F.R. Motor method, A.S.T.M. D-357-33T; and lubricating oil specifications determined according to A.S.T.M. methods, unless otherwise noted.

Atlantic Coast Refiners' & Tanker Terminal Operators' Quotations (FOB Refineries & Terminals)

MOTOR GASOLINE—Prices Effective Feb. 5

District:	60-64 Oct.	65-66 Oct.	68-70 Oct.	72-74 Oct.
N. Y. harbor	6.50 – 6.70	(r) 6.50 –7.30	6.50 – 7.00	6.50 – 7.70
(a) N. Y. harbor	6.375– 6.70	(r) 6.40 –7.05	(m)6.375–6.75	6.40 – 7.20
Albany	.....	.....	.....	7.60 – 7.80
Philadelphia	6.50 – 6.75	(r) 6.50 –6.75	6.50 – 6.75	6.50 – 8.00
Baltimore	6.25 – 6.75	(m)6.75	6.50 – 7.00	6.75 – 7.75
Norfolk	(r) 6.625–6.875	(m)6.75	6.75 – 7.00	7.00 – 7.75
Wilm'ton	6.50 –6.875	(m)6.75	6.75 – 7.00	7.00 – 7.85
Char'ston	6.625–6.875	(m)6.75	(r)7.00	7.00 – 7.55
Savannah	6.25 – 6.875	.....	6.75 – 7.00	7.00 – 7.25
Jacksonville	6.25 – 6.875	.....	6.75 – 7.00	7.00 – 7.25
Miami	(r) 6.25 –6.875	.....	(m)7.00	(r) 7.00 –7.25
Tampa	6.25 – 6.875	.....	(m)7.00	7.00 – 7.25
Pensacola	(m)6.625–6.875	.....	.....	(m)7.00 –7.25
Mobile	6.00 – 6.50	.....	(m)6.25	6.75 – 7.00
Portland	.....	.....	(m)7.50	7.50 – 7.60
Boston	6.50 – 7.25	(r) 6.75 –7.25	(r)6.75	6.75 – 7.50
Providence	6.80 – 7.25	(m)7.25	(m)6.75	6.75 – 7.50

FUEL OILS—Prices Effective Feb. 5

	Nos. 2-3	No. 4	No. 5	No. 6
N. Y. Harb.	5.10 – 6.00	5.10 – 6.00	$1.70 –$1.85	$1.50
N. Y. Harb., barges	5.00 – 6.00	5.00 – 6.00	.....	.....
Albany	(m)5.20	(m)5.20	(m)$2.00	(m)$1.70
Philadelphia	4.75 – 5.60	4.50 – 5.35	$1.46 –$1.80	$1.25 –$1.50
Baltimore	(m)4.75	(m)4.50	(m)$1.47	(r) $1.25–$1.50
Norfolk	(m)5.25	.....	.....	(m)$1.50
Charleston	(m)5.50	.....	.....	.....
Savannah	.....	.....	.....	(m)$1.45
Jacksonville	.....	.....	.....	(m)$1.45
Tampa	.....	.....	.....	(m)$1.40
Portland	(m)5.40	(m)5.40	(m)$2.00	(m)$1.50
Boston	(r) 5.20 –5.70	(r) 5.20 –5.70	(r) $1.70 $1.80	(m)$1.50
Providence	(r) 5.20 –5.70	(r) 5.20 –5.70	$1.75 –$1.80	(m)$1.50

District:	(e) Bunker C Fuel	(e) Diesel Oil
N. Y. harbor	(r)$1.50	$2.10 –$2.20
Philadelphia	$1.25 –$1.50	$2.10 –$2.20
Baltimore	(m)$1.50	$2.10
Norfolk	(m)$1.50	$2.10 –$2.20
Charleston	.....	$1.90 –$2.20
Savannah	(m)$1.45	$1.995
Jacksonville	(m)$1.45	$1.995–$2.10
Tampa	(m)$1.40	$1.995–$2.10
Portland	(m)$1.50	$2.20
Boston	(m)$1.50	$2.10 –$2.20
Providence	(m)$1.50	$2.10 –$2.20

	Diesel Oil Shore Plants	Gas House Gas Oil 28-34 Gravity
N. Y. harbor	5.10	5.20
Albany	5.20	....
Philadelphia	5.00	....
Baltimore	5.00	5.00
Norfolk	5.00	5.00
Charleston	5.00	....
Jacksonville	5.00	....
Tampa	5.00	....
Portland	5.40	5.50
Boston	5.20	5.30
Providence	5.20	5.30

KEROSINE and/or NO. 1 FUEL:

District:			
N. Y. harbor	5.60–6.50	Jacksonville	5.25-5.625
(a) N. Y. harb.	5.50 –6.50	Miami	(m)5.50-5.625
Albany	(m)5.70	Tampa	5.50-5.625
Phila	5.50–6.00	Pensacola	(m)5.50-5.625
Baltimore	(m)6.00	Mobile	(m)5.375-5.50
Norfolk	(r)5.50-6.00	Portland	(m)5.90
Wilm'ton, N.C.	5.50 –6.00	Boston	(r)5.70-6.10
Charleston	(r)5.50-6.00	Providence	(r)5.70-6.10
Savannah	(r)5.50-5.625		

Pacific Export

(e) (Quotations at seaboard, Los Angeles, cargo lots cents per gal., except where otherwise noted.)

Prices Effective	Feb. 5	Jan. 29
U. S. Motor, under 65 octane	5.75 – 6.00	5.75 – 6.00
400 e.p. blend, 65 oct. min.	6.00 – 6.25	6.00 – 6.25
390 e.p. blend, 66 oct.	6.125– 6.375	6.125– 6.375
390 e.p. blend, 68 oct.	6.25 – 6.50	6.25 – 6.50
375 e.p. blend, 70 oct.	6.375– 6.75	6.375– 6.75
(d) 38-40 gravity, w.w. kerosine	4.25 – 5.00	4.25 – 5.00
41-43 grav., w.w. kero.	4.50 – 5.00	4.50 – 5.00
44 grav., w.w. kero	5.00 – 5.50	5.00 – 5.50
Cargo lots, per bbl.		
Diesel fuel, 24 & above	$1.25 –$1.35	$1.25 –$1.35
Diesel fuel, under 24	$1.15 –$1.25	$1.15 –$1.25
(f) 30-34 grav., diesel (gas oil)	$1.25 –$1.35	$1.25 –$1.35
(g) Grade C fuel	$0.68 –$0.73	$0.68 –$0.73

Prices Effective	Feb. 5	Jan. 29
In Ships' Bunkers, or deep tank lots, per bbl.:		
(f) Diesel fuel	$1.35 –$1.45	$1.35 –$1.45
(g) Grade C fuel	$0.85 –$0.90	$0.85 –$0.90
Cased Goods: (Per case)		
U. S. M.	$1.45 –$1.55	$1.45 –$1.55
400 e.p. blend, under 65 oct.	$1.50 –$1.60	$1.50 –$1.60
375-400 e.p. blend, 65 oct. & above	$1.60 –$1.70	$1.60 –$1.70
(d) 40-43 grav., w.w. kero	$1.40 –$1.50	$1.40 –$1.50
Kero., p.w.	$1.35 –$1.45	$1.35 –$1.45

New York Export Quotations

(Cents per gal. in bbls. FAS New York)

CYLINDER OILS (Penna. Products)

Bright stock:		
Light, 25 p.t.	(p) 36.00–38.00	(p) 36.00–38.00
Neutral oil:		
200 3 color, 25 p.t.	(n)38.00	(n)38.00
150 3 color, 25 p.t.	(p)36.00	(p)36.00
600 s.r., unfilt.	(p)23.00	(p)23.00
650 s.r., unfilt.	(p) 25.00–26.00	(p) 25.00–26.00
600 fl. s.r.	(p) 26.50–27.00	(p)26.50–28.50
630 fl., s.r.	(p) 32.00–32.50	(p) 32.00–32.50

Seaboard Wax Quotations

(A.S.T.M. Tests. Melting points, however, are A.M.P., 3° higher than E.M.P. Export prices, FAS. c.l. Domestic prices, FOB. refineries, in bags, c.l., with 0.2c discount allowed for shipment in bulk, except where noted. Scale solid; fully refined slabs in bags)

Prices Effective	Feb. 5	
	New York Domestic	New York Export
124-6 Y.C. scale	.....	(n)5.50
122-4 W.C. scale	(p) 5.50 –5.75	(p) 5.50 –5.75
124-6 W.C. scale	5.50 – 5.75	5.50 – 5.75
123-5 Fully rfd.	(n)6.25	(o)
125-7 Fully rfd.	(n)6.30	(n)7.50
128-30 Fully rfd.	(h&p)6.10-6.40	(n)7.75
130-2 Fully rfd.	(h&n)6.60	(n)8.00
133-5 Fully rfd.	(h&p)6.65-6.85	(n)8.50
135-7 Fully rfd.	.....	(n)9.00
108-111 white Match wax	.....	(n&t)7.00
	New Orleans Export	
124-6 Y.C. scale	(n)5.50	
122-4 W.C. scale	.....	
124-6 W.C. scale	(p) 5.50 –6.00	
123-5 Fully rfd.	(o)	
125-7 Fully rfd.	(m)7.50	
128-30 Fully rfd.	(m)7.75	
130-2 Fully rfd.	(m)8.00	
133-5 Fully rfd.	(m)8.50	
135-7 Fully rfd.	(m)9.00	

Gulf Coast Bulk

(FOB ship at Gulf for domestic and export; min. 20,000 bbls.)

Prices quoted by individual GCRA refiners on their products meeting GCRA specifications follow

	Feb. 5
GCRA Spec. Motor Fuels	
65 octane (CFR) unleaded	5.75 – 6.00
68 octane (CFR) unleaded	5.875 – 6.25
70 octane (CFR) unleaded	(p) 5.875–6.25
72-74 octane (CFR) unleaded	.....
72-74 octane (CFR) leaded	6.00 – 6.25
GCRA Spec. Kerosine & Gas Oils	
Kerosine	(p)4.50
43 or below diesel index gas oil	(n)4.00
43-47 diesel index gas oil	(p) 4.00 –4.125
48-52 diesel index gas oil	(p)4.25
53-57 diesel index gas oil	(p)4.375
58 & above	(p)4.50

Prices quoted by refiners for other products follow:

MOTOR GASOLINE

Feb. 5	60-62 Gravity, 400 e.p.	61-63 Gravity, 390 e.p.	64-66 Gravity, 375 e.p.
60 oct. unleaded	5.25-5.50	(p)5.25-5.375	(p)5.375-5.50
65 oct. unleaded	5.50-6.00	(p)5.50-5.625	(p)5.625-5.75
68 oct. unleaded	5.75-6.25	(p)5.875-6.00	(p)6.00
70 oct. unleaded	(p)5.875-6.25	(n)6.125	(n)6.25
72-74 oct. leaded	5.75-6.25	(n)6.00	(n)6.00

KEROSINE

	Feb. 5	Jan. 29
41-43 grav. w.w.	4.25 – 4.50	4.25 – 4.50

GAS OILS

Gas Oil (i):		
Below 43 diesel index	(n)4.00	(n)4.00
43-47 diesel index	(n)4.125	(n)4.125
48-52 diesel index	4.00 – 4.25	4.00 – 4.25
53-57 diesel index	(p)4.375	(p)4.375
58 & above	(n)4.50	(n)4.50

LIGHT FUEL OILS

No. 2	(n)4.125	(n)4.125

DIESEL and BUNKER OILS

(c) Diesel Oil	$1.70	$1.70
(c) Grade C bunker oil	$0.90 –$1.05	$0.90 –$1.00
Grade C bunker oil, cargoes	$1.00 –$1.05	$1.00 –$1.05

MID-CONTINENT LUBES

(Cents per gal. at Gulf; in packages, FAS.; in bulk FOB terminals)

Feb. 5	(v) Packages	Bulk
200 vis. D. 210 brt. stock	(n)36.50	(n)30.80
200 vis. E 210 brt. stock	(n)35.50	(n)29.80
150 vis. D 210 brt. stock 0-10 p.p.	(p) 32.50–33.00	(p) 26.80–27.00
10-25 p.p.	(p)31.50	(p)25.80
150 vis. E 210 brt. stock	(n)31.50	(n)25.80
100 vis. D 210 brt. stock 0-10 p.p.	(n)31.50	(n)25.80
10-25 p.p.	(n)30.50	(n)24.80
200 vis. No. 3 col. neutral:		
0-10 p.p.	(n)22.00	(n)16.30
10-25 p.p.	(n)21.50	(n)15.80
180 vis. No. 3 col. neutral:		
0-10 p.p.	(n)21.50	(n)15.80
10-25 p.p.	(n)21.00	(n)15.30

SOUTH TEXAS LUBES

(Vis. at 100° cold test 0, bulk export shipment, FOB terminals.)

Unfiltered Pale Oils: Vis. Color	Feb. 5	Jan. 29
100 No. 3	6.00 – 6.50	6.00 – 6.50
200 No. 3	7.50 – 8.50	7.50 – 8.50
300 No. 3	8.00 – 9.00	8.00 – 9.00
500 No. 3½	9.00 –10.50	9.00 –10.50
750 No. 4	9.50 –11.00	9.50 –11.00
1200 No. 4	10.00 –13.50	10.00 –13.50
2000 No. 4	10.25	10.25
Red Oils:		
100 No. 5-6	6.00 – 6.50	6.00 – 6.50
200 No. 5-6	7.50 – 8.50	7.50 – 8.50
300 No. 5-6	8.00 – 9.00	8.00 – 9.00
500 No. 5-6	9.00 –10.50	9.00 –10.50
750 No. 5-6	9.50 –11.00	9.50 –11.00
1200 No. 5-6	10.00 –13.50	10.00 –13.50
2000 No. 5-6	10.25	10.25

(a) In barge lots. (c) Ships' bunkers. Lighterage, additional at some points, not included. (d) 150 fire point. (e) For San Francisco cargo prices, add 5c per bbl. to cargo prices shown above. (f) Pacific Specification 200. (g) Pacific Specification 400. (h) Shipment in bags or in bulk. (i) Less than ½ of 1% sulfur. (j) Second-hand barrels. (k) Continental ports in range between Bordeaux and Hamburg, both inclusive. (l) Venezuela loading, same rate: Tampico, 2c to 3c per bbl. additional. (m) One supplier quoting. (n) One refiner quoting. (o) No quotations reported. (p) Two refiners quoting. (q) No rates reported. (r) Two suppliers quoting. (s) Sale. (t) Shipment in tight barrels. (v) New steel drums. (w) Last paid for mixed cargo. Full cargo light fuel reported at 72c.

CRUDE OIL MARKETS

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates as given

EASTERN FIELDS

Posted by Joseph Seep Purchasing Agency
(Effective Jan. 1, 1940, except Corning Nov. 4, 1939)

Bradford-Allegany (Penna. and N. Y.) $2.75
Penna. Grade Oil in Southwest Penna. Pipe Lines $2.40
Penna. Grade Oil in Eureka Pipe Lines (West Virginia) $2.34
Corning Oil in Buckeye Pipe Lines (Ohio) $1.12

Posted by Other Companies

Tide Water Associated Oil Co.
Bradford-Allegany district (Penna. and N. Y.)
(Effective Jan. 1, 1940) $2.75
*The Pennzoil Co.: (Effective Jan. 1, 1940)
Penna. Grade Oil in National Transit Lines $2.68
*The Pennzoil Co. posts $2.68 in Cochran, Franklin, Hamilton and Doolittle, Pa. fields, prices in other lower districts range down to $2.63 per bbl. at well.

MICHIGAN

Posted by Pure Oil Co.
(Effective Oct. 9, 1939)

Midland, Midland County $1.02
Sherman $0.97
Clare-Freeman $0.97

Posted by Simrall Corp.
(Effective Oct. 9, 1939)

Crystal, Greendale, Porter, Vernon and Wise $1.02
Beaverton, Buckeye, Bentley, Edenville $1.00
Freeman and Redding $0.97
Arenac $0.82
(Effective Nov. 1, 1939)
West Branch $0.85

Posted by Sohio Corp. (Michigan Division)
(Effective Oct. 9, 1939)

Allegan and Kent Counties $1.03
(Effective Nov. 9, 1939)
Van Buren County $1.03

Posted by Bay Pipe Line Corp.
(Effective Oct. 9, 1939)

Bentley and Buckeye $1.00
Saginaw and Wise ..... $1.02 Clare $0.76

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.
(Effective June 8, 1939)

Illinois and Western Indiana $0.95
Illinois Basin $1.05

Posted by Sohio Corp.

Illinois Basin:
(Effective Oct. 21, 1939)
Salem (Lake Centralia) $1.05
(Effective June 8, 1939)
Balance of Illinois Basin $1.05
(Effective Oct. 10, 1939)
Griffin (Ind.) pool, sand wells $0.95
Griffin (Ind.) pool, McCloskey lime $0.85

Posted by Carter Oil Co.
(Effective June 10, 1939)

Louden, Fayette County, Ill. $1.05

Posted by Ashland Oil & Transportation Co.
(Effective June 9, 1939)

Somerset Oil in Ashland Lines, Kentucky:
Big Sandy River ..... $1.02 Kentucky River $1.10

Western Kentucky

Posted by Sohio Corp.
(Effective June 9, 1939)

Birk City Area $0.90

Posted by Owensboro-Ashland Co.

Owensboro Area $1.00
Corydon Area (Henderson) $0.90

CANADIAN FIELDS

Posted by Imperial Oil Limited
Western Ontario
(Effective Nov. 6, 1939)

Petrolia ..... $2.10 Oil Springs $2.17

Alberta Turner Valley
(Prices f.o.b. field tankage)
(Effective Jan. 5, 1938)

Crude Oil			
40-40.9°	$1.14	53-53.9	$1.40
41-41.9	1.16	54-54.9	1.42
42-42.9	1.18	55-55.9	1.44
43-43.9	1.20	56-56.9	1.46
44-44.9	1.22	57-57.9	1.48
45-45.9	1.24	58-58.9	1.50
46-46.9	1.26	59-59.9	1.52
47-47.9	1.28	60-60.9	1.54
48-48.9	1.30	61-61.9	1.56
49-49.9	1.32	62-62.9	1.58
50-50.9	1.34	63-63.9	1.60
51-51.9	1.36	64-64.9	1.62
52-52.9	1.38		
Crude Naphtha, 65 grav. & above			$2.14
Absorption Gasoline			
90% Rec., 20 lb. Reid v.p.			$1.94
90% Rec., 17 lb. Reid v.p.			$2.08

MID-CONTINENT—Oklahoma-Kansas

*(For effective dates, see footnote)

	S. O. Indiana	Carter Mag-nolia Shell	Conti-nental Texas Co.	Sin-clair Prairie
Below 21°	$0.70	$0.60	....	....
21-21.9	.72	.63	....	....
22-22.9	.74	.66	....	....
23-23.9	.76	.69	....	....
24-24.9	.78	.72	....	....
25-25.9	.80	.75	....	$0.58
26-26.9	.82	.78	....	.63
27-27.9	.84	.81	....	.68
28-28.9	.86	.84	$0.86	.73
29-29.9	.88	.87	.88	.78
30-30.9	.90	.90	.90	.82
31-31.9	.92	.92	.92	.86
32-32.9	.94	.94	.94	.90
33-33.9	.96	.96	.96	.96
34-34.9	.98	.98	.98	.98
35-35.9	1.00	1.00	1.00	1.00
36-36.9	1.02	1.02	1.02	1.02
37-37.9	1.04	1.04	1.04	1.04
38-38.9	1.06	1.06	1.06	1.06
39-39.9	1.08	1.08	1.08	1.08
40 & above	1.10	1.10	1.10	1.10

*Effective in 1938 by Carter Oil, Oct. 13, posting in Okla. only; Continental Oil, Oct. 11, with lowest grade below 29; Magnolia, Oct. 12, posting in Okla. only; Shell, Oct. 22; S. O. Indiana, Oct. 17; The Texas Co., Oct. 12. Aug. 31, 1939, by Sinclair-Prairie.

North-North Central and Central Texas
*(For effective dates, see footnote)

	Stano-lind	Sinclair Texas Co. Conti-nental Magnolia
Below 21°	$0.60	....
21-21.9	.62	....
22-22.9	.64	....
23-23.9	.66	....
24-24.9	.68	$0.79
25-25.9	.70	for
26-26.9	.72	oil
27-27.9	.74	below
28-28.9	.76	29°.
29-29.9	.78	.81
30-30.9	.80	.83
31-31.9	.82	.85
32-32.9	.84	.87
33-33.9	.86	.89
34-34.9	.88	.91
35-35.9	.90	.93
36-36.9	.92	.95
37-37.9	.94	.97
38-38.9	.96	.99
39-39.9	.98	1.01
40 & above	1.00	1.03

*Effective Oct. 11, 1938 by Continental, in North Tex.; Oct. 12, 1938, by Texas Co. in North & North Central Texas. Texas Co.'s lowest grade is 28-28.9, at $0.79; by Magnolia, Dec. 3, 1938, in N. and N. Central Texas; Oct. 5, 1939 by Sinclair Prairie in Mexia and N. Cent. Texas.

Jefferson County, Texas—Beaumont

(Posted by Magnolia Petroleum Co., Effective Oct. 2, 1939, and by Stanolind Oil & Gas Co., for West Beaumont, Effective Oct. 2, 1939)

Below 20°	$0.86	30-30.9	$1.08
20-20.9	.88	31-31.9	1.10
21-21.9	.90	32-32.9	1.12
22-22.9	.92	33-33.9	1.14
23-23.9	.94	34-34.9	1.16
24-24.9	.96	35-35.9	1.18
25-25.9	.98	36-36.9	1.20
26-26.9	1.00	37-37.9	1.22
27-27.9	1.02	38-38.9	1.24
28-28.9	1.04	39-39.9	1.26
29-29.9	1.06	40 & above	1.28

TEXAS FIELDS

Posted by Humble Oil & Refining Co.
**West Central Texas*
(Effective Aug. 11, 1939)

24-24.9	$0.71	33-33.9	$0.89
25-25.9	.73	34-34.9	.91
26-26.9	.75	35-35.9	.93
27-27.9	.77	36-36.9	.95
28-28.9	.79	37-37.9	.97
29-29.9	.81	38-38.9	.99
30-30.9	.83	39-39.9	1.01
31-31.9	.85	40 & above	1.03
32-32.9	.87		

*Includes Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, Throckmorton and Young Counties.

Effective Aug. 29, 1939, Shell posted in Fisher county, Tex., prices 3c lower than Humble's West Central Texas prices; Shell's schedule begins with below 25, at $0.68 and ends with 40 & above, at $1.

Note: Effective Oct. 1, 1937, Humble prices are based on 100% tank tables at 60F.

**East Central Texas*
(Effective Aug. 11, 1939)

23-23.9	$0.78	32-32.9	$0.96
24-24.9	.80	33-33.9	.98
25-25.9	.82	34-34.9	1.00
26-26.9	.84	35-35.9	1.02
27-27.9	.86	36-36.9	1.04
28-28.9	.88	37-37.9	1.06
29-29.9	.90	38-38.9	1.08
30-30.9	.92	39-39.9	1.10
31-31.9	.94	40 and above	1.12

Posted by Pan American Pipe Line Co.
(Effective Oct. 2, 1939)

Cayuga, Anderson county $0.78
*Including Anderson, Cherokee, Limestone, Navarro counties.

PANHANDLE TEXAS

	Humble (Aug. 11, 1939)		Texas Co. (Oct. 2, 1939)	
	Gray County	Carson Hutchin-son	Sweet	Sour
28-28.9	$0.72	$0.67	....	....
29-29.9	.74	.69	....	....
30-30.9	.76	.71	....	....
31-31.9	.78	.73	....	....
32-32.9	.80	.75	....	....
33-33.9	.82	.77	....	....
34-34.9	.84	.79	$0.84	$0.79
35-35.9	.86	.81	.86	.81
36-36.9	.88	.83	.88	.83
37-37.9	.90	.85	.90	.85
38-38.9	.92	.87	.92	.87
39-39.9	.94	.89	.94	.89
40 & above	.96	.91	.96	.91

Effective Aug. 31, 1939, Sinclair Prairie met Humble in Panhandle Texas. Dec. 3, 1938, Magnolia posted same schedule as Humble.

*EAST TEXAS

By Humble, Shell, Sinclair-Prairie, Stanolind, Gulf, Magnolia, Texas Co., Tide Water-Associated $1.10
*Effective dates: Aug. 11, 1939, by Humble and Tide Water-Associated; Aug. 29, 1939, by Stanolind; Oct. 2, 1939 by Sinclair Prairie; Oct. 5, 1939 by Shell; Oct. 12, 1938, by Magnolia, Texas Co.; Oct. 13, 1938, by Gulf.
*Includes Cherokee, Gregg, Rusk, Smith and Upshur counties.

Posted by Shell Oil Co., Inc.
(Effective Oct. 5, 1939)

Polk County, Tex. (Livingston and Schwab-Wilcox areas) $1.10

NORTHEAST TEXAS

(Posted by Humble, Oct. 2, 1939)

Talco $0.65

(Posted by Magnolia, Oct. 12, 1938)

Cass County and Panola County, Tex.:
Magnolia posts below 25° at $0.73, plus 2c differential for each degree, to top grade of 40 & above, at $1.05.

(Posted by The Texas Co., Oct. 12, 1938)

Cass County $1.05

WEST TEXAS and NEW MEXICO

(a) (For effective dates, see footnote)

	Humble	Stano-lind	Shell	Texas Co. Sinclair (c)
Below 20°	$0.53	....	$0.53	....
20-20.9	.55	....	.55	....
21-21.9	.57	....	.57	....
22-22.9	.59	$0.67	.59	....
23-23.9	.61	for	.61	....
24-24.9	.63	oil	.63	....
25-25.9	.65	Below	.65	$0.65
26-26.9	.67	26°.	.67	.67
27-27.9	.69	.69	.69	.69
28-28.9	.71	.71	.71	.71
29-29.9	.73	.73	.73	.73
30-30.9	.75	.75	.75	.75
31-31.9	.77	.77	.77	.77
32-32.9	.79	.79	.79	.79
33-33.9	.81	.81	.81	.81
34-34.9	.83	.83	.83	.83
35-35.9	.85	.85	.85	.85
36-36.9	.87	.87	.87	.87
37-37.9	.89	for	for	for
38-38.9	.91	oil	oil	oil
39-39.9	.93	36° &	36° &	36° &
40 & above	.95	.95	above.	above.

Posted by Magnolia Petroleum Co.
(Effective Oct. 12, 1938 in West Texas; Oct. 15, 1939 in Lea County, N. Mex.)

	West Texas	N. Mex.		West Texas	N. Mex.
Below 25	$0.63	$0.63	33-33.9	$0.81	$0.81
25-25.9	.65	.65	34-34.9	.83	.83
26-26.9	.67	.67	35-35.9	.85	.85
27-27.9	.69	.69	36-36.9	.87	.87
28-28.9	.71	.71	37-37.9	.89	for
29-29.9	.73	.73	38-38.9	.91	oil
30-30.9	.75	.75	39-39.9	.93	36 &
31-31.9	.77	.77	40 & over.	.95	above
32-32.9	.79	.79			

Note: Magnolia's West Texas postings are in Crane, Glasscock, Howard, Mitchell, Upton and Winkler counties.

Pecos County, West Texas
(Posted by Humble Aug. 11, 1939 and Shell, Aug. 29 '39)

Pecos $0.78
Yates Shallow Pool (Shell only) ..... .65

Posted by Sinclair Prairie Oil Marketing Co.
(Effective Aug. 31, 1939)

Eddy county, N. Mex. $0.77

(a) Effective Aug. 11, 1939 by Humble; Shell Oil, Aug. 29, 1939; by The Texas Co., Oct. 12, 1938; Stanolind, Aug. 29, 1939; Sinclair Prairie, Aug. 31, 1939.
(c) Texas Co. posts $0.65 for below 26; Sinclair Prairie, $0.63 for below 25.
Note: Humble's postings are in these counties: Andrews, Crane, Crockett, Ector, Gaines, Glasscock, Howard, Reagan, Upton, Winkler and Yoakum, West Texas; and Lea county, N. Mex.; Shell, in Crane, Ector, Glasscock, Howard, Upton, Winkler, Yoakum, Lea; Stanolind in Hendrick and Henderson field, Winkler county; Texas Co. in Ward, Winkler and Lea.

Posted by Continental Oil Co.
(Effective Oct. 11, 1938)

Artesia, Jackson and Maljamar pools, New Mexico; gravity schedule beginning with below 29, at $0.61; 29-29.9, at $0.63; plus 2c differential for each gravity, up to 40 & above, at $0.85.

COLORADO

Posted by Continental Oil Co.
(Effective Oct. 11, 1938)
Ft. Collins and Wellington

Below 29	$0.81	35-35.9	$0.95
29-29.9	.83	36-36.9	.97
30-30.9	.85	37-37.9	.99
31-31.9	.87	38-38.9	1.01
32-32.9	.89	39-39.9	1.03
33-33.9	.91	40 & above	1.05
34-34.9	.93		

Canon City and Florence, Col. $0.90

SOUTH AND SOUTHWEST TEXAS

All Shown Below Posted by Humble Oil & Refining Co.
(Effective Aug. 11, 1939)

Carroll, Clark, Darst Creek, Hilbig, Salt Flat and Zoboroski crudes $0.96
Van crude $0.93
Conroe $1.27

(Effective Oct. 2, 1939)

Flour Bluff and Jim Wells County $1.23
(Effective Sept. 14, 1939)
Hardin, Liberty county $1.10

Oct. 12, '38, Magnolia posted $0.96 in Darst Creek; $0.87 in Luling; $0.99 in Lytton Springs; $1.14 for Cleveland, and $1.02 in Hardin, both in Liberty county, Tex.
Oct. 12, '38, The Texas Co. posted $0.96 in Darst Creek.

CRUDE OIL MARKETS

(*Continued from preceding page*)

***Anahuac-Dickinson**
(Effective Oct. 2, 1939)

Below 20°	$0.81	30-30.9	$1.03
20-20.9	.83	31-31.9	1.05
21-21.9	.85	32-32.9	1.07
22-22.9	.87	33-33.9	1.09
23-23.9	.89	34-34.9	1.11
24-24.9	.91	35-35.9	1.13
25-25.9	.93	36-36.9	1.15
26-26.9	.95	37-37.9	1.17
27-27.9	.97	38-38.9	1.19
28-28.9	.99	39-39.9	1.21
29-29.9	1.01	40 & above	1.23

*Anahuac-Dickinson includes Cedar Point, Fairbanks, Gillock, Hull, Pierce Junction and Raccoon Bend (shallow sand) and Turtle Bay.

Raccoon Bend (Deep sand crude) Tomball and Satsuma
(Effective Aug. 11, 1939)

22-22.9	$0.95	32-32.9	$1.15
23-23.9	.97	33-33.9	1.17
24-24.9	.99	34-34.9	1.19
25-25.9	1.01	35-35.9	1.21
26-26.9	1.03	36-36.9	1.23
27-27.9	1.05	37-37.9	1.25
28-28.9	1.07	38-38.9	1.27
29-29.9	1.09	39-39.9	1.29
30-30.9	1.11	40 & above	1.31
31-31.9	1.13		

Dec. 3, 1938, Magnolia posted above price and gravity schedule in Tomball. Effective Aug. 29, 1939, Stanolind met Humble in Tomball, except that Stanolind's schedule begins with below 29 at $1.07.

LOUISIANA-ARKANSAS

Posted by Standard Oil Co. of Louisiana
(†) (For effective dates, see footnote)

Gravity	*N. La.-Ark. Sweet	Bunkie-Eola, La.	*South La. Sour	*Ark. Sour	Baton Rouge-University
Below 20°					$0.79
20-20.9	$0.73	$0.83	‡$0.74	$0.63	.82
21-21.9	for	for	.77	for	.85
22-22.9	oil	oil	.80	oil	.88
23-23.9	Below	Below	.83	Below	.91
24-24.9	25°.	25°.	.86	25°.	.94
25-25.9	.75	.85	.89	.65	.97
26-26.9	.77	.87	.92	.67	1.00
27-27.9	.79	.89	.94	.69	1.02
28-28.9	.81	.91	.96	.71	1.04
29-29.9	.83	.93	.98	.73	1.06
30-30.9	.85	.95	1.00	.75	1.08
31-31.9	.87	.97	1.02	.77	1.10
32-32.9	.89	.99	1.04	.79	1.12
33-33.9	.91	1.01	1.06	.81	1.14
34-34.9	.93	1.03	1.08	.83	1.16
35-35.9	.95	1.05	1.10	.85	1.18
36-36.9	.97	1.07	1.12	.87	1.20
37-37.9	.99	1.09	1.14	.89	1.22
38-38.9	1.01	1.11	1.16	.91	1.24
39-39.9	1.03	1.13	1.18	.93	1.26
40 & above	1.05	1.15	1.20	.95	1.28

(Effective Aug. 30, 1939)

Smackover, Ark.	$0.73
Cotton Valley Distillate	$1.20

*N. La.-Ark. Sweet includes Caddo, Cotton Valley, Cross Lake, De Soto, Haynesville, Homer, Rodessa, Sabine and Sligo, La. crudes, and Miller county, Ark. S. La. Sour includes Choctaw, Darrow, N. Crowley, Roanoke and St. Martinsville. S. Ark. Sour includes Buchner, Magnolia and Village pools.

†N. La.-Ark. Sweet crude and S. La. Sour effective Aug. 30, 1939, except Cross Lake, La., Sept. 7, Baton Rouge-Univ., Sept. 11, and Bunkie and Eola, Oct. 23, 1939; and Ark. Sour, Sept. 13, 1939.

‡For Below 21°.

Effective Sept. 8, 1939, Gulf Refg. Co. met S. O. La's. N. La.-Ark. Sweet prices in Bull Bayou, Caddo, Crichton, De Soto, Haynesville, Homer, and El Dorado.

Posted by Arkansas Fuel Oil Corp.
(Effective Jan. 28, 1937)

Urania, La.	$1.02

Posted by Continental Oil Co.
(Effective Oct. 11, 1938)

Tepetate and Ville Platte, La.	$1.03

(Effective Jan. 1, 1939)
Abbeville, La.

Below 36	$0.92	38-38.9	$0.98
36-36.9	.94	39-39.9	1.00
37-37.9	.96	40 & above	1.02

Posted by Caddo Crude Oil Purchasing Corp.
(Effective Aug. 14, 1939)

Allison area, Shreveport field	$0.95

Lisbon, N. La.
(Effective Sept. 14, 1939)

27-27.9	$0.66	32-32.9	$0.76
28-28.9	.68	33-33.9	.78
29-29.9	.70	34-34.9	.80
30-30.9	.72	35 & above	.82
31-31.9	.74		

Lisbon prices met by Gulf, Sept. 14.

Note: S. O. Louisiana prices in all La.-Ark. fields, effective Oct. 5, 1938, are on 100% tank table basis.

GULF COASTAL FIELDS

(a) (For effective dates, see footnote)

Gravity	Humble Sinclair Stanolind	Refugio Crude (Humble, Continental)	Texas Co.	Shell
Below 20°	$0.86	$0.91	$0.86	(b)$0.79
20-20.9	.88	.93	.88	.81
21-21.9	.90	.95	.90	.83
22-22.9	.92	.97	.92	.86
23-23.9	.94	.99	.94	.89
24-24.9	.96	1.01	.96	.92
25-25.9	.98	1.03	.98	.95
26-26.9	1.00	1.05	1.00	.98
27-27.9	1.02	1.07	1.02	1.00
28-28.9	1.04	1.09	1.04	1.02
29-29.9	1.06	1.11	1.06	1.04
30-30.9	1.08	1.13	1.08	1.06
31-31.9	1.10	1.15	1.10	1.08
32-32.9	1.12	1.17	1.12	1.10
33-33.9	1.14	1.19	1.14	1.12
34-34.9	1.16	1.21	1.16	1.14

(*Continued in next column*)

35-35.9	1.18	1.23	for	for
36-36.9	1.20	1.25	oil	oil
37-37.9	1.22	1.27	34° &	34° &
38-38.9	1.24	1.29	above.	above.
39-39.9	1.26	1.31		
40 & above	1.28	1.33		

(a) Effective Oct. 2, 1939 by Continental, Humble and Texas Co.; Oct. 3, 1939 by Sinclair and Stanolind; Aug. 29, 1939 by Shell. Stanolind's lowest grade is below 21, at $0.88. Refugio, effective Oct. 2, '39 by Humble.

(b) Shell posts these prices in Iowa district, Black Bayou and White Castle, La.; prices in Iowa district have 2 lower grades: below 18, at $0.75, 18-18.9, $0.77; and 19-19.9, is $0.79.

Note: Humble's Gulf Coast prices apply in these Texas fields: Amelia, Clear Lake, Goose Creek, Mirando which includes Duval, Jim Hogg, Webb and Zapata counties and Heyser and Placedo fields; Mykawa, Sugarland, Thompsons and Webster.

Humble's prices in Refugio include crudes purchased in Saxet, East White Point, Greta, O'Connor-McFadden, Taft, Plymouth and Tom O'Connor fields.

Stanolind's prices apply in High Island and Spindletop; also in Clinton, Hastings and South Houston, where, effective Jan. 1, 1940, lowest grade is below 21° at $0.88; rest of schedule same as other Gulf Coast. Magnolia posts Mirando, effective Oct. 2, same prices as Humble. Texas Co.'s prices are in Texas and La., Gulf Coast; its prices on Refugio are same as Humble's up to 28 gravity; 28 & above, $1.09; on Duval-Mirando same as Humble's up to 28; 28 & above, $1.04; it posts Golden Meadow, La., 24-30 grav., $0.90, plus 2c differential, to 40 & above, $1.10.

Posted by Shell Oil Co., Inc.
(Effective Aug. 29, 1939)

Gibson field, Terreborne Parish, La.	$1.04

ROCKY MOUNTAIN FIELDS

Posted by Stanolind Oil & Gas Co.
(Effective Oct. 11, 1938)

Salt Creek, (except Tensleep crude), Midway and Dutton Creek, Wyo., same schedule as Stanolind posts in Oklahoma-Kansas, ranging from $0.86 to $1.10, which see under Mid-Continent crude on previous page.

Tensleep, Salt Creek field	$0.646
Hes, heavy	0.92
Elk Basin, light	0.90
Grass Creek, light	0.90
Frannie light	0.55
Grass Creek, heavy	0.40
Hamilton Dome, Wyo.	0.35
Frannie heavy	0.42

Posted by Ohio Oil Co.
(Effective Oct. 11, 1938)

Elk Basin, Wyo.	$0.90	Rock Creek	1.00
Grass Creek, light	0.90	Lance Creek	0.77
Dry Creek, Mont.			0.92

(Effective May 1, 1938)

Grass Creek, heavy	$0.50

(Effective Nov. 16, 1937)

Sunburst, Mont.	$0.90

Posted by Continental Oil Co.
(Effective Oct. 11, 1938)

Cat Creek, Mont.	$1.10
Big Muddy, Wyo.	0.98
Lance Creek, Wyo.	0.77

CALIFORNIA, *Posted by Standard Oil of California*

All gravities above those quoted take highest price offered in the field. Prices effective Feb. 1, 1940

Gravity	Signal Hill (Long Beach) and others*	Seal Beach	Huntington Beach	Inglewood	Playa Del Rey	Olinda Brea Canon	Athens-Rosecrans	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Greeley Canal	Coles Levee Richfield Western	Mountain View and others**	Elk Hills	Buena Vista Hills, Midway-Sunset, Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Santa Maria Val. (Union Oil, Sept. 1 '39)
14-14.9	$0.65	$0.64	$0.63	$0.64	$0.65	$0.61		$0.65	$0.61	$0.61	$0.62	$0.63				$0.60	$0.60	$0.60	$0.60	$0.60		$0.42
15-15.9	65	64	63	64	65	61		65	61	61	62	63				60	60	60	60	60		.44
16-16.9	65	64	63	64	65	61		65	61	61	62	63				60	60	60	60	60		.45
17-17.9	65	64	63	68	65	61		65	61	61	62	63				60	60	60	60	60		.46
18-18.9	65	64	63	71	65	65		68	61	61	62	63				60	60	60	60	60		
19-19.9	69	64	67	75	70	69		72	61	65	62	63				60	64	64	64	61	$0.60	
20-20.9	73	64	72	79	76	74		75	65	69	62	67				60	69	69	69	62	.60	
21-21.9	78	64	76	82	81	78		79	69	73	62	72	$0.63			64	74	74	74	66	.60	
22-22.9	82	69	81	86	86	82		82	73	77	66	76	63			68	79	79	78	70	.63	
23-23.9	86	75	85	89	92	86	$0.71	86	78	82	71	81	67			71	84	84	82	74	67	
24-24.9	90	80	90	93	97	90	77	89	82	86	75	85	72			75	89	89	86	78	71	
25-25.9	95	86	94	96	1.02	95	82	93	86	90	80	89	77			79	94	94	90	82	75	
26-26.9	99	91	99	1.00	1.08	99	88	96	90	94	84	94	82			83	99	99	95			
27-27.9	1.03	97	1.03	1.04		1.03	94	1.00	94	98	89	98	87	$0.83	$0.92	87	1.04	1.04	99			
28-28.9	1.07	1.02	1.07	1.07		1.07	99	1.03	98		93	1.02	91	86	96	91	1.09	1.09	1.03			
29-29.9	1.10	1.07	1.11	1.10		1.10	1.04	1.06	1.02		98	1.06	96	90	99	95	1.14	1.14	1.07			
30-30.9	1.14	1.12	1.15	1.14		1.14	1.09	1.09			1.02	1.10	1.01	.94	1.02	99	1.19	1.19	1.11			
31-31.9				1.17		1.17	1.14	Elwood Terrace			1.07	1.14	1.05	.98	1.06	1.02	1.24	1.24	Kettleman Hills			
32-32.9				1.20		1.20	1.19	F. o. b. ship.			1.11	1.18	1.09	1.02	1.09	1.06	1.29	1.29				
33-33.9							1.24	$1.21			1.15	1.22	1.14	1.06	1.13	1.10	1.34	1.34		$1.12		
34-34.9							1.29	1.25			1.20	1.26	1.19	1.10	1.16	1.14				1.17		
35-35.9							1.34	1.29			1.24		1.23	1.14	1.20					1.21		
36-36.9							1.39	1.33			1.28		1.27	1.18	1.23					1.25		
37-37.9							1.44	1.37			1.33		1.31	1.22	1.26					1.29		
38-38.9							1.49				1.37		1.36	1.25	1.30					1.33		
39-39.9							1.54				1.42			1.29	1.34					1.38		
40-40.9							1.59				1.46			1.33	1.37							
41-41.9											1.50			1.37	1.40							
42-42.9											1.54			1.41	1.44							
43-43.9											1.59			1.45	1.47							
44-44.9											1.63			1.49	1.51							
45-45.9											1.67			1.53	1.54							
46-46.9											1.71			1.57	1.57							
47-47.9														1.61								
48-48.9														1.64								

FOB Standard Pipeline

*El Segundo prices same as Signal Hill. Wilmington prices same as Signal Hill, except below 19 gravity prices are: 14-16.9, $0.60; 17-17.9, $0.62; 18-18.9, $0.64.
**Includes Newhall, McKittrick, Kern River, Round Mountain and Kern Front, schedule for which ends with 19-19.9. Mountain View schedule begins with 19-19.9.

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Ethyl Corp. in Seattle

Ethyl Gasoline Corp. has opened a Seattle office and established a division for the northwest comprising Washington, Oregon, Idaho, Utah, Montana and Wyoming, announces J. Coard Taylor of New York, vice president in charge of sales.

Harry Kuhe, formerly assistant manager of the Tulsa division, is manager of the new Seattle division. Fred Naylor, formerly of the Chicago division, is assistant manager. Headquarter offices are in 1411 Fourth Ave. Bldg.

New Use for Petroleum—Preserving Cross Ties

Preservation of railroad cross ties by impregnation with a combination treatment employing zinc chloride and a petroleum oil was described by E. R. Boller of Wilmington, Del., du Pont Co. chemist, at the annual meeting of the American Wood Preservers Ass'n. in St. Louis, Jan. 23-25. The retention of the petroleum oil is at the rate of eight pounds per cubic foot of wood. Creosote oil, which has been used for timber preservation, is obtained in part from abroad and imports may be curtailed, it is said.

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Address all Blind Box Number ads to National Petroleum News, 530 Penton Building, Cleveland, Ohio, unless otherwise specified.

For Sale

FOR SALE 3000 gallon three compartment Columbian Transport and White 704 tractor, price complete F.O.B. Charlotte, N. C., $1,950. One 2500 gallon six compartment Butler Trailow and Chevrolet tractor, F.O.B. Wakefield, Va., $1,350. Also several transports from 2500 to 4000 gallons. All first class condition, write for prices. G. E. Bobbitt, Box 1055, Raleigh, N. C.

Twelve used Niagara Meters—perfect condition for use on loading racks, trucks and for other measuring purposes. Very reasonably priced. Address Box No. 188.

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"For Sale," "Wanted to Buy," "Help Wanted," "Business Opportunities," "Miscellaneous" classifications, set in type this size without border — 10 cents a word. Minimum charge, $3.00.

"Position Wanted"—5 cents a word. Minimum charge $1.00.

Advertisements set in special type or with border—$4.00 per column inch.

Copy must reach us not later than Saturday preceding date of issue.

All advertisements carried on this page are payable in advance.

"STRICTLY PERSONAL"

Harold Hawk, manager of the Farmers Co-Operative Society and of the society's service station at Perryton, Tex., put his hobby to a practical use during the recent cold wave. Hawk owns a light airplane and when snows prevented him from reaching a herd of cattle out on the range he and a plumber friend who also is a pilot made a pair of skis and fitted them to the plane. Then they made daily trips to carry feed to the herd on the snow-bound prairie.

* * *

M. J. Helmer of the Farmers Labor Oil Co., Albert Lea, Minn., is reported spending some time in Cuba on business.

* * *

Mr. and Mrs. Fred Faugust and family of Jacksonville, Ill. have been visiting in Florida. Mr. Faugust is head of the Faugust Oil Co.

* * *

W. A. Baden, for several years butane sales manager for Warren Petroleum Co. and **Paul R. Smith,** attorney for the same company, resigned Feb. 1, to become affiliated with the recently formed Anchor Petroleum Co., which will manufacture and market butane and propane for domestic and industrial uses. Mr. Baden is vice-president, and Mr. Smith, secretary and treasurer of the new company.

* * *

Don M. Mattocks, formerly of the legal staff of the Sinclair Prairie interests, joined the legal staff of Warren Petroleum Co., Feb. 1. He succeeds **Paul R. Smith.**

* * *

J. E. Moorhead, Oil City, Pa., executive secretary of the Pennsylvania Grade Crude Oil Ass'n, and **H. M. Rugg**, Detroit automotive engineer of the association, are on a trip through the west calling on oil marketers who are members of the association. On the Pacific Coast they will be accompanied by **Thomas McAuliffe,** field service division representative there.

* * *

D. C. Nufer, for a number of years with Carter Oil Co., has joined the Geological Staff of the Burke-Greis Oil Corp., one of the pioneer producing companies in Oklahoma.

Wiley Moore

Wiley L. Moore, president of Wooford Oil Co. of Georgia, has recently been installed as president of the United Hospitals' Service Ass'n. of Atlanta. The association has a membership of about 19,000.

* * *

Capt. Bushrod B. Howard, vice president of Standard Oil Co. of New Jersey, was elected a member of the American Bureau of Shipping, as well as a member of its Board of Managers, at its 78th annual meeting in New York last year. Another oil man elected to the Board of Managers was **James J. Maguire,** Socony-Vacuum.

* * *

John Hall Sherrill, founder of the Sherrill Oil Co. (now affiliated with the Pure Oil Co.) has been awarded the 1939 Kiwanis Cup for "outstanding, unselfish achievement" by the Kiwanis Club of Pensacola, Florida.

Making the award to Mr. Sherrill who has been active in business and civic affairs in Pensacola for over 30 years, the committee stated:

"Since his young manhood, and throughout a full life in this community, this man's thought has been for others and his service has persisted. When the community and its undertakings have needed time, labor, patient effort, wise judgment, foresight, he has given them willingly and in large measure. He has taken his part in all of the institutions of public service and has at some time been at the head of most of them. In civic enterprises, public efforts for the upbuilding and welfare of the community, in educational, charitable, religious and social work, he has been a planner, an organizer, a leader and a willing worker. Much of this service has been in the public eye, more has been done quietly and away from the public view. This service has persisted through decades and continues now."

* * *

George K. Hambleton, Hambleton Terminal Corp., Buffalo, has missed January's cold northern weather at Miami Beach, where he has been vacationing. He is not expected back at the grind for another couple of weeks.

* * *

Walter C. Teagle, board chairman of Standard Oil Co. (New Jersey) has been named to the advisory committee of the National Resources Planning Board which will make a study of research by business. Results of the committee's study will be part of the NRPB's report on "Research—A National Resource".

* * *

A. C. Dutton, assistant to vice-president in charge of sales for Standard Oil Co. of Ohio has retired after 40 years with Sohio. Mr. Dutton is now on his way to California, where he plans to take up his residence.

* * *

New directors elected recently by Independent Gasoline Distributors Ass'n of Kansas are **H. C. Smith,** H. C. Smith Oil Co., Minneola; **Tom Garrett,** Universal Motor Oil Co., Wichita; **Howard Parker,** Security Oil Co., Wichita; **Stanley Smith,** Canton Grain and Oil Co., Canton and **T. C. Lehrman,** Lehrman Oil Co., Goessel, Kansas.

* * *

J. H. Mackey of the Texas Pipe Line Co., stationed in the Henryetta, Okla., district, has been awarded a National Safety Council medal for saving the life of 6-year-old Doris Howard.